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CLINICAL FEATURES OF HEART DISEASE—AN INTERPRETATION OF THE MECHANICS OF DIAGNOSIS FOR PRACTITIONERS
By LE ROY CRUMMER, M.D., Prof. of Medicine, Univ. of Nebraska, Omaha . . . 8vo. Cloth, 375 pp., *Net $3.00*
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TULAREMIA *

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WASHINGTON, D. C.

Tularemia occurs in nature as a very fatal bacteremia of various rodents (especially rabbits) and is due to *Bacterium tularense;* it is transmissible to man as an accidental infection by the bite of an infected blood-sucking insect or tick, or by the lodgment on his hands of the blood or internal organs of an infected rodent, as in the case of market men, cooks, hunters or laboratory workers.

Among the few diseases of man that have been discovered in the last fifteen years is tularemia. It is the only disease of man that has been elucidated from beginning to end by American investigators alone. These investigators have worked in widely separated states, and in most instances each made his first contribution while in ignorance of the work of the others.

The first observations of each were characterized by the nature of the work for which he was especially trained; thus, a serologist first noted the presence of antitularense amboceptors in his own blood after a febrile attack, and in the blood of his attendant while dissecting infected rodents in his laboratory. A clinician first described the symptoms and course of the disease in a group of six cases occurring in his practice, which he differentiated as due to the bite of a blood-sucking fly found on horses. Finally, a bacteriologist isolated the causative organism from a human case in which the site of infection was the eye.

In consequence of these circumstances, a variety of names or synonyms sprang up, according to the conditions under which the disease was first encountered by each, and we find plaguelike disease of rodents, deer-fly fever, *Bacillus tularense* infection of the eye, rabbit fever and glandular type of tick fever.

SYNONYMS AND HISTORY

Plaguelike Disease of Rodents.—McCoy,[1] in 1911, described what he called "a plaguelike disease of rodents," prevalent among the California ground squirrels but first observed in squirrels received from Tulare County, Calif. McCoy and Chapin,[2] in 1911, discovered the causative organism of the disease and named it *Bacterium tularense.*

McCoy and Chapin, in 1912, reported complement fixation and agglutination of *Bacterium tularense* by the serum of Chapin and of a laboratory attendant, both of whom were extensively engaged in handling or dissecting infected rodents in the laboratory.

It is a matter of record that shortly previous to testing his own serum in 1911, Dr. Chapin had a febrile attack which kept him off duty for twenty-eight days. In the light of present knowledge it seems certain that what to McCoy and Chapin was a puzzling circumstance (the presence of anti-tularense amboceptors in the serums of two laboratory workers) was the first proof on record of two unrecognized human cases of tularemia identified serologically.

Deer-Fly Fever.—In Utah, the disease in man was for several years popularly known as "deer-fly fever" owing to the belief that the infection was due to the bite of the blood-sucking fly *Chrysops discalis,* commonly found on horses. This belief found expression in a paper published by Pearse,[3] in 1911, in which he described six cases, which constitute the first reported human cases of tularemia differentiated clinically.

Belief in the agency of the deer-fly was crystallized into demonstration, in 1919 and 1920, when I[4] isolated *Bacterium tularense* from seven human cases and seventeen jack rabbits in Utah, and named the disease tularemia; Mayne and I[5] proved the deer-fly *Chrysops discalis* to be a transmitter of the infection in laboratory animals.

So slow had been the diffusion of printed knowledge on this subject from California to Utah, or from Utah to California, that it required ten years for the identity of the California rodent disease and the Utah human disease to become recognized.

Bacillus Tularense Infection of the Eye (Vail,[6] 1914); *Bacillus Tularense Conjunctivitis* (Sattler,[7] 1915); *Conjunctivitis Tularensis* (Lamb,[8] 1917).—Three cases of tularemia occurred in the practices of three ophthalmic surgeons of Cincinnati. The bacteriologic diagnosis in these three eye cases was made by Wherry and Lamb,[9] who isolated *Bacterium tularense* on culture medium from guinea-pigs into which eye scrapings had been injected. They also isolated the organism from two dead wild rabbits collected in nature near the residence of Sattler's patient.

Vail's case is the first human case of tularemia on record to be diagnosed bacteriologically.

Rabbit Fever.—A man (E. N.) working in the Washington, D. C., market went to his physician, Dr. J. Lawn Thompson, in 1921, for treatment for what he informed the physician

* The disease is named tularemia on account of the presence in the blood of the causative organism, Bacterium tularense. This organism was so named by McCoy and Chapin, who discovered it in 1912 as the cause of a fatal epidemic among the ground squirrels in Tulare County, Calif. Tulare County was so named because that region was once covered with extensive marshy beds of the reed tule, a large variety of bulrush.

1. McCoy, G. W.: A Plaguelike Disease of Rodents, Bull. 43, Hyg. Lab., U. S. P. H. S., April, 1911.
2. McCoy, G. W., and Chapin, C. W.: Bacterium Tularense, the Cause of a Plaguelike Disease of Rodents, Bull. 53, Hyg. Lab., U. S. P. H. S., January, 1912; Further Observations on a Plaguelike Disease of Rodents with a Preliminary Note on the Causative Agent Bacterium Tularense, J. Infect. Dis. **10**: 61-72, 1912.
3. Pearse, R. A.: Insect Bites, Northwest Med., March, 1911.
4. Francis, Edward: Deer-Fly Fever; a Disease of Man of Hitherto Unknown Etiology, Pub. Health Rep. **34**: 2061-2062 (Sept. 12) 1919; The Occurrence of Tularemia in Nature, as a Disease of Man, Pub. Health Rep. **36**: 1731-1738 (July 29) 1921.
5. Francis, Edward; and Mayne, Bruce: Experimental Transmission of Tularemia by Flies of the Species Chrysops Discalis, Pub. Health Rep. **36**: 1738-1746 (July 29) 1921.
6. Vail, D. T.: Bacillus Tularense Infection of the Eye, Ophth. Rec. **23**: 487, 1914.
7. Sattler, Robert: Bacillus Tularense Conjunctivitis, Arch. Ophth. **44**: 265, 1915.
8. Lamb, F. W.: Conjunctivitis Tularensis, with Report of a Case, Ophth. Rec. **26**: 221-226 (May) 1917.
9. Wherry, W. B., and Lamb, B. H.: Infection of Man with Bacterium Tularense, J. Infect. Dis. **15**: 331-340, 1914. Wherry, W. B.: A New Bacterial Disease of Rodents Transmissible to Man, Pub. Health Rep. **29**: 3387-3390, 1914. Wherry, W. B., and Lamb, B. H.: Discovery of Bacterium Tularense in Wild Rabbits, and the Danger of Its Transfer to Man, J. A. M. A. **63**: 2041 (Dec. 5) 1914.

was "rabbit fever," adding that "rabbit fever" was well known among market men. This patient's serum agglutinated *Bacterium tularense* in a dilution of 1:320 at the Hygienic Laboratory. This was the first case of tularemia to be reported for the eastern United States.[10]

Glandular Type of Tick Fever.—Dr. H. E. Lamb of Gooding, Idaho, in a paper read before the South Idaho District Medical Association, in April, 1923, used the phrase "glandular type of tick fever" to describe cases which were encountered in practice by himself and Dr. J. H. Cromwell. At that time they considered these cases as a type of Rocky Mountain spotted fever, and added that about 10 per cent. of their cases of "tick fever" (fever following a tick bite) had been of the glandular type without eruptions; that the glands in some cases suppurated, while in others they did not, and that these patients were very sick and had fever for several weeks.

The interpretation is justified that these cases of the glandular type of tick fever were tularemia, especially since the serum of a similar case sent to the Hygienic Laboratory, in 1924, by Dr. R. M. Johnson of Billings, Mont., agglutinated *Bacterium tularense* in a dilution of 1:320.

Parker, Spencer and I,[11] reporting in May, 1924, had demonstrated the infection in the common wood tick of Montana, *Dermacentor andersoni* Stiles, collected in nature from vegetation, and in the heart blood of a snowshoe rabbit; also in ticks collected from the horse, mountain goat, woodchuck, mountain rat and Columbian ground squirrel.

GEOGRAPHIC DISTRIBUTION IN MAN AND RODENTS

So far as is now known, tularemia is confined to the United States. It has been authentically reported from thirteen states and the District of Columbia, extending from the Pacific to the Atlantic coast—California, Utah, Wyoming, Idaho, Colorado, Ohio, Indiana, Tennessee, North Carolina, Montana, New Mexico, Virginia, West Virginia and the District of Columbia.

California.—McCoy and Chapin, in 1911 and 1912, described tularemia as a plaguelike fatal epizootic of the California ground squirrel. Although the infection has prevailed among those squirrels until the present time, no human case has been reported from California other than two laboratory cases contracted while the patients were dissecting infected rodents in the U. S. Public Health Service laboratory at San Francisco in 1911. The blood serums of these two patients gave complement fixation and agglutination of *Bacterium tularense.*

Utah, Wyoming, Idaho and Colorado.—There has existed in Utah, at least since 1908, a human disease known locally as deer-fly fever. What I believe to be the first clinical reference to human cases of tularemia is contained in a paper read before the Utah State Medical Association, Salt Lake City, Oct. 3, 1910, by Dr. R. A. Pearse,[8] Brigham City, Utah. Dr. Pearse refers to six cases, which occurred in the month of August, caused by the bites of a fly, on the exposed parts of the body (neck, ear, cheek, wrist, ankle and hand). After an incubation of from two to five days, the glands that drained the bitten area became markedly swollen and went on to suppuration in about half the cases. In all the cases the site of the fly bite progressed from a red infiltration to complete breaking down of the tissues and sloughing, resulting in a punched-out circular ulcer about one-fourth inch in diameter and one-eighth inch in depth. Most of the patients had severe chills during the incubation period. The temperatures ranged from 98 to 104 F. The duration of the disease was from one to four weeks, and the severity varied "from slight malaise to death."

In 1919 and 1920, I[4] studied seven cases of deer-fly fever near Fillmore, Millard County, Utah, and found them positive for tularemia, clinically, culturally and serologically. These cases occurred in June, July and August during the seasonal prevalence of the fly *Chrysops discalis.* The sites of the fly bites were the neck, temple, ear, and posterior surface of the lower third of the thigh. In all cases, suppuration occurred in the glands draining the bitten area. All patients had fever; one died on the twenty-sixth day of illness. I heard of perhaps two dozen other cases in the general community in which I worked. From seventeen jack-rabbits, sick or dead, in the community I isolated *Bacterium tularense,* thus establishing the great resorvoir of infection.

Dr. C. E. Harris[12] of Basin, Wyo., published a paper, in 1924, giving his experience with the disease. In a personal communication, Dr. Harris informed me that he and Dr. E. W. Croft have seen about 200 cases of tularemia in the past few years.

Personal communications have been received from a number of physicians; to these I shall refer briefly. Dr. T. B. Beatty, state health commissioner of Utah, informed me of a fly-bitten patient whom he had in 1914 near Tremonton, Utah. Dr. R. B. Stevens of Fillmore, Utah, saw eight cases in 1919. Dr. Charles Stuart Moody of Menan, Idaho, reported three cases in 1923. Dr. D. Homer Junkin of Idaho Falls, Idaho, wrote that fourteen cases were reported by the Idaho Falls Medical Society, in October, 1921, of which he had five. July 25, 1924, Dr. Junkin forwarded to the Hygienic Laboratory a specimen of serum taken on the twenty-first day of illness from a fly-bitten patient; this serum agglutinated *Bacterium tularense* in a dilution of 1:160.

Ohio.—Three cases of tularemia in which the site of infection was the left eye occurred in the practices of three ophthalmic surgeons of Cincinnati, named above. A peculiar coincidence is that all three of these patients had the infection in the left eye. In none of them was there any involvement of the right eye or of the glands of the right side of the head and neck. The only records of eye cases of tularemia other than these three are in the patient of Dr. F. C. Hodges reported below from West Virginia, and the cases mentioned under Arizona.

CASE 1.—The first human case of tularemia on record to receive bacteriologic confirmation was one that occurred in 1913 in the ophthalmic practice of Dr. Vail. The patient applied for treatment, November 24, having been ill three days, and presented ten discrete ulcers of the conjunctiva of the left eye; there were fever and glandular enlargement on the left side, involving the preauricular and anterior cervical regions; the clinical diagnosis was glandular farcy, or glanders. Scrapings from a conjunctival ulcer were injected intraperitoneally into a male guinea-pig, by Wherry and Lamb, and, after several animal passages, *Bacterium tularense* was isolated from guinea-pigs on coagulated egg medium. How the ocular infection occurred is unknown; the patient was a meat cutter in a cheap restaurant; presumably, he handled infected rabbits.

CASE 2.—The second case was likewise one with unilateral involvement of the left conjunctiva, and occurred in 1914 in the ophthalmic practice of Dr. Sattler. The patient was the wife of a farmer residing on the M farm in Ohio County, southern Indiana, and applied to Dr. Sattler for treatment within twenty-four hours after the onset of symptoms in the left eye; he found her with a temperature of 104 F. and with seven very small ulcers of the left conjunctiva. The next day there was excessive prostration, high fever and painful glandular enlargement of the preauricular, cervical and submaxillary regions of the left side. October 9, some of the secretion of the left eye was injected intraperitoneally, by Wherry and Lamb, into a guinea-pig, from which *Bacterium tularense* was isolated on coagulated egg yolk medium.

How the ocular infection occurred remains a speculative assumption, but the fact remains that the patient had prepared rabbit meat for the table, and that Wherry and Lamb isolated *Bacterium tularense* on culture medium from guinea-pigs inoculated with material obtained from two wild rabbits found dead in November, 1914, 4 miles from the M farm on which the patient resided.

10. Lake, G. C., and Francis, Edward: Six Cases of Tularemia Occurring in Laboratory Workers, Bull. 130, Hyg. Lab., U. S. P. H. S., 1922, p. 81.

11. Parker, R. R.; Spencer, R. R., and Francis, Edward: Tularemia Infection in Ticks of the Species Dermacentor Andersoni Stiles, in the Bitterroot Valley, Montana, Pub. Health Rep. **39**: 1057-1073 (May 9) 1924.

12. Harris, C. E.: Tularemia, Med. Sentinel **32**: 6 (Jan.) 1924.

CASE 3.—The third case was also one in which the site of infection was the left conjunctiva, and occurred in 1916 in the ophthalmic practice of Dr. Lamb. The patient was a young colored girl, who, two days before the onset of illness, had prepared some rabbits for dinner. November 15, she had a chill and headache, and on the following day had pain and swelling in the left eye; the conjunctiva of the lower lid was the site of six or seven small, deep ulcers, filled with necrotic plugs; the left preauricular gland was enlarged and tender. November 20, four small ulcers appeared on the conjunctiva of the upper lid, and the glands of the neck were exquisitely tender. November 16, pus from the eye was inoculated intraperitoneally, by Wherry and Lamb, into a guinea-pig, from which *Bacterium tularense* was isolated on coagulated egg yolk medium. The preauricular gland proceeded to suppuration.

Indiana.—The patient in Case 2, reported from Ohio, resided at the time of her infection in Ohio County, Ind. Two cotton tail rabbits found dead 4 miles from her residence were found by Wherry and Lamb to be infected with *Bacterium tularense.*

Washington, D. C.—Three cases have occurred in Washington following the dressing of rabbits offered for sale in the local market.

CASE 4.—E. N., a patient of Dr. J. Lawn Thompson, was a market man who, in November and December, 1921, worked at a rabbit stand, skinning rabbits and pulling out the internal organs. At this time he suffered an attack of fever and prostration, accompanied by a marked painful enlargement of the axillary glands of one arm, which continued for a month but did not suppurate. Strangely, he diagnosed his own case, calling it "rabbit fever," and stated that the condition was well known among market men. The physician did not suspect the true condition of his patient until six months later, June 29, 1922, when his blood serum was sent to the Hygienic Laboratory for agglutination of *Bacterium tularense;* agglutination was complete in a dilution of 1:320.

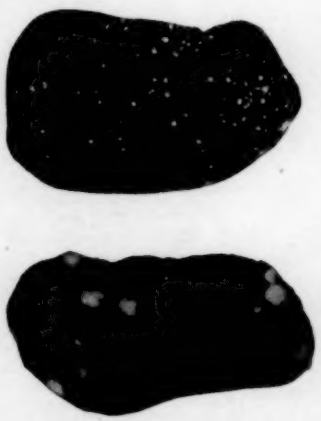

Fig. 1.—Guinea-pig spleens, showing acute (upper) and subacute (lower) lesions of tularemia. (Photograph by Major James F. Coupal, M. C., U. S. Army.)

CASE 5.—Mrs. C. S., a patient of Dr. J. Russell Verbrycke,[13] Dec. 8, 1923, dressed two rabbits bought in the Washington market and fried them for supper; they were eaten by the family of four. December 13, she had a sudden onset of fever and headache. December 23, the patient still had fever, was jaundiced, and manifested a slight resistance of the upper abdomen on both sides, which led to the diagnosis of acute choledochitis and cholangeitis, and it was decided to operate. December 24, the gallbladder was exposed but gave no evidence of disease. December 30, the blood serum, collected December 29, was sent to the Hygienic Laboratory and fund to agglutinate *Bacterium tularense* in a dilution of 1:80. The patient died on the night of December 30, on the seventh day after operation and the eighteenth day of illness.

Microscopic sections of the patient's liver and spleen showed the typical lesions of tularemia. *Bacterium tularense* was recovered on culture medium from guinea-pigs, rabbits and white mice inoculated with a piece of the patient's spleen.

CASE 6.— Mr. A., a patient of Dr. William J. G. Thomas, was a market man who, in November and December, 1923, was engaged at a rabbit counter, dressing and selling rabbits. About December 1, he became ill with fever and prostration, but persisted at work under difficulty until Feb. 11, 1924, when he first consulted his physician. At this time he presented an enlarged gland in the right epitrochlear region, and three enlarged glands in the right axilla. Blood serum, collected, February 11, was tested at the Hygienic Laboratory and found to agglutinate *Bacterium tularense* in a dilution of 1:320.

Tularemia in Market Rabbits.—I[14] examined the dressed rabbits in the Washington, D. C., market for evidence of tularemia in the months of November, December and January, months embracing the "open season," at which time wild rabbits are unprotected by the game laws and consequently are offered for sale in large numbers. In these investigations, examination was confined to the liver, because this organ was the most readily obtainable of the three (spleen, liver and lymph glands) in which the lesions are readily seen by gross examination. In December, 1922, 914 livers from the Washington market were examined at the Hygienic Laboratory, of which seven were studded over with small foci of necrosis suggesting tularemia. These seven were injected separately into guinea-pigs, causing death on about the fifth day with typical lesions in the lymph glands, liver and spleen (Fig. 1) from which cultures of *Bacterium tularense* were obtained. Two of the seven livers were from rabbits shipped from Tennessee; the source of the other five was not determined. In December, 1923, one infected liver was similarly obtained from the market, having arrived from Tennessee. In December, 1924, again, one infected liver was obtained, and this rabbit, likewise, had been shipped from Tennessee.

Tennessee.—In the account of tularemia in the Washington market, it is shown that the places of shipment of two infected rabbits found in December, 1922, were Greenville, Tenn., and Shouns, Tenn.; the place of shipment of one found in December, 1923, and another found in December, 1924, was Greenville, Tenn.

North Carolina.—Dr. Lucius G. Gage of Charlotte, N. C., reported[19] that his patient (Mrs. W.), while cleaning some quail, Dec. 27, 1921, stuck a sharp point of a wing bone into the middle finger of her left hand, after which she turned to a pan full of rabbits and manipulated them. This was followed by an attack of fever, which lasted about a month and was accompanied by suppuration of the glands at the elbow, adenitis of the axilla, and marked scarring at the site of infection on the finger. The patient's serum was submitted to the Hygienic Laboratory in May, 1922, and found to agglutinate *Bacterium tularense.*

Montana.—Parker, Spencer and I,[11] in 1924, by investigations made in the Public Health Service Laboratory located at Hamilton, Mont., demonstrated the infection in the common wood ticks of Montana, *Dermacentor andersoni* Stiles. These ticks were collected from the horse, the mountain goat, the woodchuck, the mountain rat and the Columbian ground squirrel; also in unfed ticks collected from vegetation, and from the heart blood of a snowshoe rabbit. Tularemia is evidently present in the rodents of Montana, and the wood tick transmits the infection among rodents, and to man. A case of human infection due to tick bite was reported in 1924 by Dr. R. M. Johnson of Billings, Mont.; his patient came from near the southern boundary of Montana, was bitten on the leg by a tick, and three weeks later (July 5, 1924) his serum was forwarded to the Hygienic Laboratory and found to agglutinate *Bacterium tularense* in a dilution of 1:320.

New Mexico.—Ten cases occurred during the first week of August, 1924, in the vicinity of Carlsbad, N. M., and were investigated by Dr. T. B. H. Anderson of the U. S. Public Health Service. The investigation was made at the request of the Bureau of Biological Survey, U. S. Department of Agriculture, on account of reports received in that bureau that jack-rabbits were dying about Carlsbad in numbers sufficient to suggest tularemia.

Dr. Anderson reported that the onset of illness in these ten cases occurred about two or three days after the patients

13. Verbrycke, J. R.: Tularemia, with Report of a Fatal Case Simulating Cholangeitis, with Postmortem Report, J. A. M. A. **82**: 1577-1581 (May 17) 1924.

14. Francis, Edward: Tularemia in the Washington, D. C., Market, Pub. Health Rep. **38**: 1391-1396 (June 22) 1923; Mil. Surgeon **53**: 164 (Aug.) 1923.

had cut up jack rabbits for chicken and hog feed and for fish bait, in a community where there was a heavy mortality among jack-rabbits.

He reported that the symptoms were a sudden onset with chills, fever and general body pains; that about two or three days later, swelling and tenderness of the glands draining the infected points on the fingers were noted, and were followed within a couple of days by one or more ulcers on the fingers. Enlargement of the epitrochlear or axillary glands was noted in all cases; six of these proceeded to suppuration. One patient who, previous to and during his attack of tularemia, was the subject of a chronic heart lesion, died at the end of the fourth week of illness. The clinical diagnosis of anthrax had been incorrectly made, in these cases as the result, probably, of the severity of the ulcers at the site of infection on the hands. Against a clinical diagnosis of anthrax one should have noted the presence of suppuration of the axillary glands, which does not occur in anthrax, and the fact that anthrax does not occur in nature as a fatal disease of jack-rabbits.

Blood serum was taken from two patients and forwarded to the Hygienic Laboratory to be tested for agglutination of *Bacterium tularense*, with the result that one serum taken forty-four days after the onset of illness caused complete agglutination in a dilution of 1:1,280, while the other serum, taken forty-nine days after the onset of illness, caused complete agglutination in a dilution of 1:320.

Virginia.—CASE 7.—The first case to be reported from Virginia was that of Mrs. A. M., a patient of Dr. Turner S. Shelton of South Richmond, who states[15] that three weeks before the onset of illness his patient stuck a needle in her finger, which remained sore, and that eight days before sickness began, she dressed a rabbit which the cat had caught. She first felt ill, Nov. 23, 1924, and on the next day had a chill followed by a temperature of 104 F., with nausea and vomiting. In about five days, the case resembled typhoid fever; there was some tenderness of the axillary glands and soreness of the right index finger. The blood culture and the Widal test were negative. December 5, her blood serum was sent to the Hygienic Laboratory, and it was found to agglutinate *Bacterium tularense* in a dilution of 1:160; a second sample of serum, December 17, agglutinated the organism in a dilution of 1:2,560. The titer, December 26, was 1:1,280, and, February 10, was 1:640.

CASE 8.—C. W., a patient of Dr. O. C. Brunk of Richmond, Nov. 27, 1924, went hunting, and during the day his hands became badly scratched by briars; at the end of the day he dressed five rabbits. On the night of November 29 he had a hard chill, and on the next day his physician found him with a temperature of 103 F., severe headache, and pains in the back and epigastrium; and on the dorsal surface of each thumb there was an area of infection, with signs of pus beneath the scab. During the subsequent ten days his temperature was irregular, at times 99.5 and again 103 F.; he complained of pains in the arms, and the axilla of the right arm showed definite glandular enlargement. Throughout his illness there was great prostration and frequent sweats. The infection on the thumbs resulted in two punched-out ulcers. After eleven days his fever subsided, but he still complained of being very tired, on the slightest exertion. By December 23, the patient seemed to have recovered entirely. December 18, the patient's blood serum was sent to the Hygienic Laboratory; it agglutinated *Bacterium tularense* in a dilution of 1:320.

Tularemia in Rabbits.—These two cases of tularemia in man point plainly to infection of the rabbits about Richmond, Va., one patient having dressed a rabbit which the cat had caught and the other having dressed five rabbits at the end of a day's hunt.

West Virginia.—CASE 9.—The first case to be recognized in West Virginia was Mr. C. W., a patient of Dr. F. C. Hodges of Huntington. The patient was a dresser of game and chickens in the Huntington market. The first day of the "open season" for rabbits was Nov. 15, 1924, and on this date rabbits were first offered for sale in the market and were first dressed by the patient. November 20, the patient called a physician on account of a red papule on the middle finger of the left hand; the second, third and fourth fingers were swollen; the lymph glands in the left axilla were enlarged and tender; the temperature was 103 F., and continued high for seven days, accompanied by delirium; the patient was confined to bed for thirty-six days, during which time the left axillary glands suppurated and discharged pus; "lumps" appeared on the skin of the left arm and forearm, and one appeared over the dorsal region of the spine; greenish pus, obtained by incision of the "lumps," was free from organisms in smears and repeatedly failed to give growth when inoculated to glucose broth, glucose agar and Sabouraud's medium.

Early in the disease there was an ulcerated condition of both lids of both eyes, which gradually healed after two weeks.

March 20, 1925 (four months after the onset of the illness), the temperature was 99.3 F., pulse 100, red blood cells 4,208,000, white cells 12,900; hemoglobin 68 per cent. and blood Wassermann reaction negative. Blood serum collected March 16, 1925, and tested at the Hygienic Laboratory, agglutinated *Bacterium tularense* in a dilution of 1:640.

Arizona.—The following letter, brown with age, was recently found in a forgotten file by Dr. Frederick G. Novy of Ann Arbor, Mich., who marked it "tularemia" and sent it to me. In the light of present knowledge, it constitutes the very first description of cases of tularemia, of which three were eye infections.

Phoenix, Territory of Arizona, Sept. 19, 1907.

Dr. Frederick G. Novy,
Ann Arbor, Mich.

Dear Doctor:

There have been during the summer several individuals in this locality who have suffered from an infection as a result of skinning and dressing wild rabbits. They were of the so-called "jack" variety. Three of these persons have had their primary lesion in or about the eye. Small abscesses formed in the lids and on the bulbar conjunctiva as well. In one case the cornea was involved. The preauricular gland being involved, as well as the anterior cervical and the submaxillary. At the onset there were chills, profuse sweating and an elevation of temperature of from 2 to 5 degrees, with rapid pulse, lasting several days. The glands suppurated and all were evacuated. In one case a nodular condition of the lids still remains. There were no deaths; in fact, the illness was not profound. In one instance the infection took place in the foot, and others in the hands, etc. The adjacent lymphatics, of course, being involved.

Yours very truly, ANCIL MARTIN, M.D.

SYMPTOMS AND COURSE OF TULAREMIA

Case histories and notes have been recorded for forty-nine cases, of which fourteen were caused by fly bite in Utah and Idaho, one was caused by tick bite in Montana; ten patients had cut up jack-rabbits for hog feed, chicken feed and fish bait in New Mexico; ten had dressed wild cottontail rabbits for food in Ohio, Washington, D. C., North Carolina, Virginia and West Virginia, and fourteen were laboratory workers who had performed necropsy on infected guinea-pigs or rabbits in laboratories in San Francisco, Washington, D. C., Hamilton, Mont., and London, England.

Two clinical types of symptoms are encountered in analyzing these cases.

Of thirty-five cases in which the patients were fly-bitten, tick-bitten or had cut up jack-rabbits or dressed cottontail rabbits, thirty-three were of the glandular type, with enlarged glands and an evident local site of infection; in only two of the thirty-five was there a record of absence of enlarged glands or absence of a local site of infection.

Fourteen cases of infection of laboratory workers were free from enlarged glands or local site of infection, and to the clinician they simulated typhoid fever and were therefore of the typhoid type.

Glandular Type.—Incubation: The incubation period has not been determined with certainty except in eight cases, in which it was two, two, two, three, five, five, eight and nine days, with an average of four and one-half days. Considering the

15. Shelton, T. S.: Tularemia, J. A. M. A. 84: 1019 (April 4) 1925.

probable incubation period in other cases, I would put the most common incubation period at from two to five days.

Onset and Symptoms: The onset is sudden, often occurring while the patient is at work, and is manifested by headache, chills, bodily pains, vomiting, prostration and fever. In cases which are caused by fly bites or tick bites, or in which there is some other evident site of infection, contracted from manipulating the internal organs of wild rabbits, the patients complain, within forty-eight hours after the onset, of pain in the area of the lymph glands which drain the site of infection; and on examination these glands are found to be tender and slightly enlarged; only the regional glands are involved and not those of other parts of the body. The glandular pain precedes by about twenty-four hours any definite reference by the patient to the site of infection, which now becomes manifest as a painful, swollen, inflamed papule, which speedily breaks down, liberating a necrotic core or plug and leaving an ulcer about one-fourth inch in diameter, with raised edges and having a punched-out appearance (Fig. 2). The fever lasts from two to three weeks, and may reach a height of 104 F.; there may be a transient remission to about normal on the third and fourth days, after which the temperature rises again and does not fall to normal until the end of two or three weeks (Fig. 3); or there may be daily remissions, almost to normal, suggesting a septic type of fever.

There is redness of the skin overlying the enlarged and tender lymph glands, and this redness may be continuous to the site of infection, or red streaks may be visible on an extremity. In about half the cases the lymph glands proceed to suppuration, and after the inflammation has subsided an abscess ruptures through a soft, thin spot in the skin. In the other half of the cases the glands do not break down but remain hard, palpable and rather tender for two or three months, gradually returning to normal.

The normal blood count is not sufficiently changed in any particular to be of diagnostic importance, although in many cases the leukocyte count has been somewhat increased.

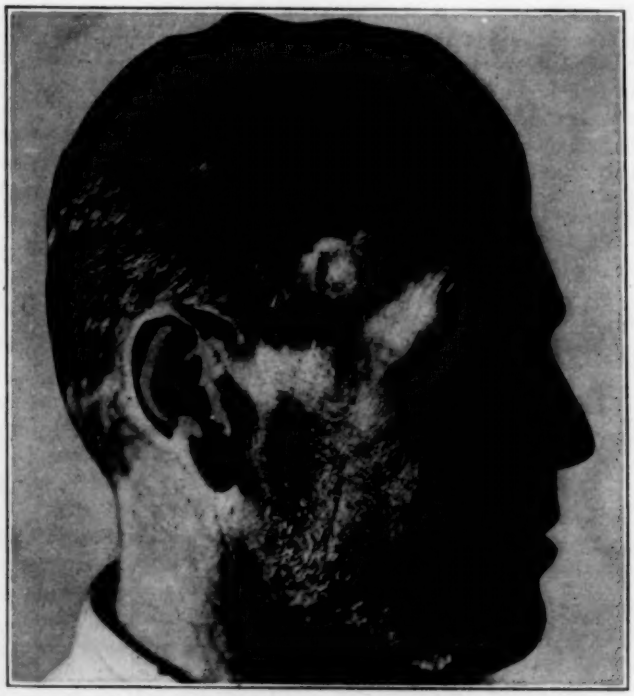

Fig. 2.—Appearance of patient after recovery from tularemia; bitten on temple by the fly Chrysops discalis.

Agglutinins for *Bacterium tularense* are absent from the blood during the first week of illness, but appear in the second week, reaching their height at the end of the third or fourth week. They then begin to decline, but persist in considerable titer for several years. Agglutination is a point of great diagnostic value and makes possible the differentiation of tularemia from typhoid fever and other infections during the febrile period.

Convalescence is slow; it is rare for a patient to be at work again at the end of a month; usually the second month is spent lying about the house, owing to weakness on exertion, and during the third month only half-time work is performed. The patients finally recover without evident complications, although some have not entirely returned to normal for six months or even a year.

Death is rare, and yet, of seven cases which I studied in Utah, one patient, who was fly-bitten on the right side of the neck, died on the twenty-sixth day of illness with a complicating pneumonia of the right upper lobe. Of ten cases reported by Anderson, from Carlsbad, N. M., one patient, who previous to and during his attack of tularemia had a chronic heart lesion, died at about the end of the fourth week of illness. Of three cases reported from Washington, D. C., one patient died on the eighteenth day of illness and on the seventh day after an exploratory abdominal incision. With better recognition of the disease by physicians, some deaths, which otherwise would be ascribed to typhoid fever or septic infection, may be recorded as due to tularemia.

Typhoid Type.—Laboratory Infections: Twelve of fourteen cases of tularemia occurring in laboratory workers who had performed necropsy on infected guinea-pigs or rabbits did not show any evident site of infection or enlargement of lymph glands, but in all other respects the symptoms were the same as those of the glandular type. Two English patients showed moderate involvement of the cervical glands. These cases occurred in four laboratories, located at San Francisco; Washington, D. C.; London, England, and Hamilton, Mont.

McCoy and Chapin,[9] in 1912, made the first reference to laboratory cases of this infection. They reported complement fixation and agglutination of *Bacterium tularense* by the serums of Chapin and a laboratory attendant, both of whom were extensively engaged in handling or dissecting infected rodents in the laboratory at San Francisco.

The Public Health Service records show that ninety-four days after beginning work with tularemia animals in the laboratory, Dr. Chapin was granted twenty-eight days' leave of absence, beginning March 1, 1911, on account of sickness, the nature of which could not be diagnosed. The illness was accompanied by fever, was unaccompanied by glandular enlargement or other local lesion, and incapacitated this officer for all duty. No absence from duty on the part of the laboratory attendant can now be recalled by Dr. Chapin. Shortly after returning to duty, Dr. Chapin discovered the positive findings in his own serum and in the serum of his attendant. In the light of present knowledge it seems certain that what to McCoy and Chapin was a puzzling circumstance (the presence of antitularense amboceptors in the serums of two laboratory workers) was the proof of two unrecognized human cases of tularemia identified serologically.

Lake and I[16] reported that all six men who, during 1919, 1920 and 1921, were intimately connected with the laboratory investigations of tularemia which the Public Health Service was conducting, contracted this disease. Such a record of morbidity among investigators of a disease is probably unique in the history of experimental medicine. Fortunately, there were no fatalities. Two of the men contracted the disease in the field laboratory in Utah, where they were compelled to work under primitive conditions; the other four contracted the infection in the Hygienic Laboratory at Washington, D. C. Two of the men were physicians, with years of experience in working with infectious diseases and materials; one was a highly trained scientist, and the other three were experienced laboratory assistants.

Ledingham and Fraser[17] reported that in the Lister Institute of Preventive Medicine, London, England, three of the personnel who were conducting laboratory experiments with the

16. Lake, G. C., and Francis, Edward: Six Cases of Tularemia Occurring in Laboratory Workers, Pub. Health Rep. **37**: 392-413 (Feb. 24) 1922.

17. Ledingham, J. C. G., and Fraser, F. E.: Tularemia in Man from Laboratory Infection, Quart. J. Med. **17**: 365-382, 1923-1924.

infection in guinea-pigs contracted the disease in 1922. The carrying of the infection by animal passage habitually proved so dangerous that "by a brave discretion" it was given up by the institute. The source of infection in this instance was a culture of *Bacterium tularense* that had been sent to the Lister Institute from the Hygienic Laboratory at Washington, D. C.

In the Public Health Service Laboratory located at Hamilton, Mont., two physicians and one attendant, who performed necropsy on infected animals or removed them from the dissection boards, contracted the disease in 1924. All were well aware of the danger to laboratory workers, and took unusual precautions against infection.

AGGLUTINATION TESTS

The definite diagnosis of tularemia in fourteen laboratory workers rested finally on the agglutination of *Bacterium tularense* by their blood serum in each instance. The fever in each was such as to suggest typhoid, but the only records of positive Widal tests were in two patients who had received three injections of single typhoid vaccine; a slightly positive Widal reaction is recorded in these cases.

The laboratory cases afforded an unusual opportunity to study the early appearance of agglutinins and their long persistence. Both phases of agglutination are shown in the accompanying tables.

PORTAL OF ENTRY IN LABORATORY WORKERS

Two of three laboratory cases occurring in England gave moderate evidence of pain, tenderness and

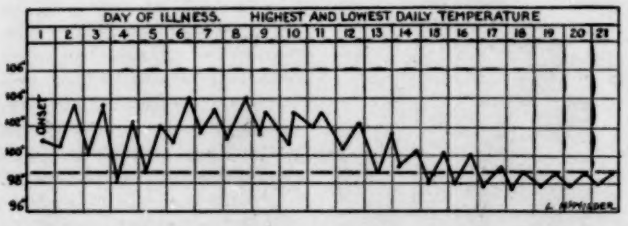

Fig. 3.—Temperature in a human case of tularemia (laboratory infection).

swelling localized in the cervical glands, but otherwise there was an absence of local lesions.

None of the eleven laboratory cases occurring in America showed any evident site of infection or enlarged glands. It is difficult to account for this absence. The portal of entry of the infection in laboratory workers is unknown. All of them had either performed necropsy on infected animals or removed the animals from the dissection boards. Presumably, infected tissue and blood found lodgment on their hands, and then the infection either penetrated the skin or found its way to the mouth and was swallowed. If it penetrated the skin of the hand, one would expect a local lesion or glandular enlargement of the arm, or both; if it found entrance to the mouth, one might expect glandular enlargement of the neck. To support the view that the infection in these cases penetrated the unbroken skin of the hands, we know that guinea-pigs on the normal skin of which infected spleen juice is placed die acutely of typical tularemia, in the absence of any clipping of the hair or rubbing of the skin or of any possibility that the infection might have gained entrance to the animal's mouth. We know that, in culture mediums, cystin is a requirement of growth of the organism, and that the cystin content of the skin is high; hence the possibility must be considered that the cystin of the skin supplies conditions for growth of the organism and subsequent penetration of the skin.

The mechanism of infection of laboratory workers is discussed by Ledingham and Fraser of England, with special reference to one of their three cases. Their third patient, S., dated his infection from one exposure only, while performing a necropsy on a chloroformed

Table 1.—*Agglutination Titers of Laboratory Cases for Bacterium Tularense Early in Tularemia*

Case	Time in Days	Titer 1 to	Case	Time in Days	Titer 1 to
R. R. P.*	7	0	R.†	14	10
	14	640		46	80
	21	1,280		470	320
P.†	7	0	C. W. P.	19	320
	14	160	R. R. S.*	21	640
	406	160		28	1,280
S.†	6	0		200	640
	12	40	S. S. M.*	28	1,280
	403	80			

* Hamilton, Mont., case.
† Lister Institute case.

guinea-pig and passing the virus to another. He remembered distinctly that the animal had coughed in his presence during anesthesia. Nine days later the illness set in. This was his sole association with tularemia. The view is expressed that a droplet respiratory infection might explain such cases.

INSECT TRANSMISSION

The only animals yet found infected in nature are the ground squirrels of California and Utah, and the jack-rabbits, snowshoe rabbits and cottontail rabbits of several states, but not domestic rabbits raised in rabbitries. These rodents, which constitute the great reservoir of infection, manifest, when dying, the characteristic bacteremia, thus affording the necessary condition for ready transfer by blood-sucking insects and ticks.

Transmission from rabbit to rabbit in nature is by the rabbit tick *Haemaphysalis leporis-palustris* Packard,[11] and by the rabbit louse *Haemodipsus ventricosus* Denny,[18] neither of which bites man, but they transfer the infection throughout the year and perennially from rabbit to rabbit.

Transmission to man is by (1) the blood-sucking fly *Chrysops discalis* (deer-fly) [5] commonly found on horses in Utah and in the adjoining states; this fly,

Table 2.—*Titers of Laboratory Cases, Showing the Persistence of Agglutinins in the Blood Serum of Long-Recovered Patients in Washington, D. C.*

Case	Onset	1921	1922	1923	1924	1925
G. C. L.	Oct. 23, 1920	Aug. 5=320	6-27=320	3-1=160	2-22= 80	1-31=80
G. W. O.	April 9, 1921	Aug. 5=160	6-27=160	.....	4-16=160	1-31=80
C. W. P.	July 17, 1921	Aug. 5=320	6-27=160	.....	4-16= 80	1-31=80
E. F. ...	Aug. 23, 1919	Jan. 19=100	6-29= 40	3-1= 40	4-15= 40	1-31=40

after biting an infected rabbit, bites man on an exposed part of the body; (2) the wood tick *Dermacentor andersoni* Stiles,[11] commonly found in Montana and in the adjoining states; the virus is capable of surviving the winter in this tick and of being transmitted from stage to stage as the tick develops.

Under laboratory conditions, transmission has been effected among white mice by the mouse louse

18. Francis, Edward; and Lake, G. C.: Experimental Transmission of Tularemia in Rabbits by the Rabbit Louse Haemodipsus Ventricosus (Denny), Pub. Health Rep. **36**: 1747-1753 (July 29) 1921.

Polyplax serratus Burm [19] and the common bedbug, *Cimex lectularius;* [20] from guinea-pig to guinea-pig by the biting stable fly *Stomoxys calcitrans;* [21] from ground squirrel to ground squirrel by the squirrel flea *Ceratophyllus acutus.*[1]

NONCONTAGIOUSNESS

No instance has been reported of the spread of the infection from man to man by mere contact or by the bite of insects which previously have bitten a patient. Dr. C. E. Harris, however, reported a case of direct transmission to a mother who, while dressing an ulcer and an opened gland on the neck of her son, pricked her thumb with a safety pin, resulting in a severe infection of the thumb; typical fever and prostration, with rather early suppuration of the epitrochlear and axillary glands, but without red streaks on the arm, followed.

IMMUNITY

The only instance that has been reported of a second attack in man was in a laboratory worker engaged daily in performing necropsies, without gloves, on laboratory animals in the Hygienic Laboratory, Washington, D. C.[16] The second attack developed two years and five months after the first attack; there was a papule engrafted on a crack on the finger from which *Bacterium tularense* was isolated by guinea-pig inoculation. There was also a lymphadenitis involving the epitrochlear and axillary glands of the same arm, but an absence of fever or other notable constitutional symptoms.

The long persistence of agglutinins in the blood of recovered patients may be an indication of their immunity.

Susceptible laboratory animals (guinea-pigs, rabbits and white mice) have exhibited no evidence of immunity in our laboratory; all have died with the single exception of one rabbit, which survived a severe attack.

DIAGNOSIS

Knowledge of at least the name of a disease must precede its diagnosis; a physician cannot be expected to diagnose a disease of which he has never heard. Glandular farcy was suspected in the first Cincinnati eye case on account of the glandular enlargements, and led to the inoculation of conjunctival scrapings into a male guinea-pig. Anthrax was suspected in the cases at Carlsbad, N. M., probably on account of the severity of the ulcers on the fingers, and they were so reported in the news items to THE JOURNAL. Typhoid is the diagnosis on the hospital records of a case in Washington, D. C., the temperature chart of which appears in Figure 3; this was a case of laboratory infection in which there was no evident site of infection or glandular enlargement. The suspicion of typhoid fever is common in cases of tularemia, especially of the typhoid type. Septic infection was the physician's diagnosis in a Washington, D. C., market case in which the site of infection was on the finger and was followed by glandular enlargement in the epitrochlear and axillary regions. Cholangeitis was the diagnosis in a Washington, D. C., case which manifested jaundice, fever and slight resistance of the upper abdomen, without glandular enlargement or a local lesion.

In an endemic focus in Utah and the adjoining states, a person presenting a fly bite on an exposed part of the body in June, July or August, with inflammation of the adjacent lymph glands and with fever and prostration, at once arouses the suspicion of tularemia.

Tick-bitten patients in Montana and the adjacent states with consequent glandular enlargements and fever, but without the eruption of spotted fever, suggest tularemia.

In a person who has dressed or cut up wild rabbits, as in the case of a market man, cook or hunter, and who develops a sore on the hand accompanied by inflamed glands of the cervical, epitrochlear or axillary regions, together with fever and marked illness, tularemia should be borne in mind, and the appropriate tests should be made. These cases usually develop in the months of November, December and January, when wild rabbits become a common article of food offered in the markets.

Laboratory workers who are engaged in dissecting guinea-pigs, rabbits and mice artificially infected with *Bacterium tularense,* and who present a sudden onset of fever without glandular enlargements and without an evident site of infection, should immediately consider tularemia.

When a patient gives a negative Widal test in spite of the insistence of the physician that his case simulates typhoid, inquiry should elicit whether the patient has manipulated the internal organs of a rabbit; if so, the blood serum should be tested for agglutination of *Bacterium tularense.*

A fatal epizootic in wild rabbits should direct attention to tularemia, which will be evidenced by a spotted condition of the spleen especially, and also of the liver of dead or sick rabbits. Natural infection has never been reported in domestic rabbits bred in rabbitries and sold for food or for laboratory purposes.

LABORATORY TESTS

Agglutination.—The blood serum of a patient suffering from tularemia agglutinates *Bacterium tularense,* just as the serum of a typhoid patient agglutinates *Bacillus typhosus;* this is a very reliable and practical test.

Agglutinins are absent from the blood during the first week of illness, but blood taken in the second week has always reacted positively in our cases. The agglutinin titer reaches its maximum at the end of the third or fourth week, when a decline in titer begins. Persistence of agglutinins in the blood of patients who have recovered is, however, a notable and fortunate occurrence, in that the serum of patients, although recovered for several years, is of great diagnostic value.

Serum is collected under ordinary sterile conditions, as for the Wassermann test; but if the serum cannot be collected sterilely no phenol (carbolic acid) or tricresol should be added, but an equal amount of undiluted pure neutral glycerin should be added as a preservative. At least 0.5 c.c. of serum is required for a test; a somewhat larger quantity is preferable.

Suspected serum or tissues may be sent to the Director, Hygienic Laboratory, Twenty-Fifth and E streets, N.W., Washington, D. C., for diagnosis.

Animal Inoculations.—Pus from the site of the fly bite or tick bite, or other site of infection, or from the patient's suppurating glands, or tissue from a wild rab-

19. Francis, Edward; and Lake, G. C.: Transmission of Tularemia by the Mouse Louse Polyplax Serratus (Burm), Pub. Health Rep. **37**: 96-101 (Jan. 20) 1922.

20. Francis, Edward; and Lake, G. C.: Transmission of Tularemia by the Bedbug, Cimex Lectularius, Pub. Health Rep. **37**: 83-95 (Jan. 20) 1922.

21. Wayson, N. E.: Plague and Plaguelike Disease: A Report on Their Transmission by Stomoxys Calcitrans and Musca Domestica, Pub. Health Rep. **29**: 3390-3393, 1914.

bit's spotted spleen or liver should be injected subcutaneously into the abdomen of guinea-pigs or rabbits; such material should first be rubbed in a mortar, suspended in salt solution, and strained through coarse gauze. Within a week the animals should die, presenting a gray, granular caseation of the enlarged lymph glands of the groin, and great numbers of small white foci of necrosis, studded over the enlarged spleen, especially, and over the liver.

Material from the dead animal's glands, spleen and liver, when rubbed on the shaven, abraded skin of another guinea-pig or rabbit, should likewise cause its death within a week with the same typical lesions of the lymph glands, spleen and liver, and thus the infection may be propagated for an indefinite number of passages through guinea-pigs or rabbits. Cultures of *Bacterium tularense* may be obtained by inoculation from the blood, spleen or liver of these animals to coagulate egg yolk or serum glucose cystin agar [22] on which mediums the organism grows as a small, nonmotile, gram-negative rod, while on plain agar no growth will take place. The bacteriologic diagnosis of tularemia should not be expected from cultural inoculations, or from smears made direct from the patient. In severe cases the patient's blood injected intraperitoneally into these animals will likewise cause the infection and death of the animals.

More reliance should be placed on the gross pathologic evidence of the disease in guinea-pigs or rabbits than on direct microscopic findings in the patient or animal.

Spleens of infected guinea-pigs or rabbits, if dropped into pure glycerin and placed in the icebox, will remain virulent for at least a month, thus affording a means of shipping live virus for the purpose of identification.

Workers who are engaged in performing necropsies of infected animals should wear rubber gloves and observe all other precautions to avoid infection. In spite of all such precautions, however, cases have occurred among laboratory workers.

TREATMENT

The treatment is symptomatic. Rest in bed is most important. Those who have had most experience with the enlarged glands do not advise excision or even incision until a very evident soft, thin place appears in the skin overlying the glands. No preventive vaccine or curative serum has been perfected.

22. Francis, Edward: The Amino-Acid Cystine in the Cultivation of Bacterium Tularense, Pub. Health Rep. **38**: 1396-1404 (June 22) 1923; Mil. Surgeon **53**: 169 (Aug.) 1923.

PELLAGRA SECONDARY TO LESIONS OF THE STOMACH INTERFERING WITH NUTRITION *

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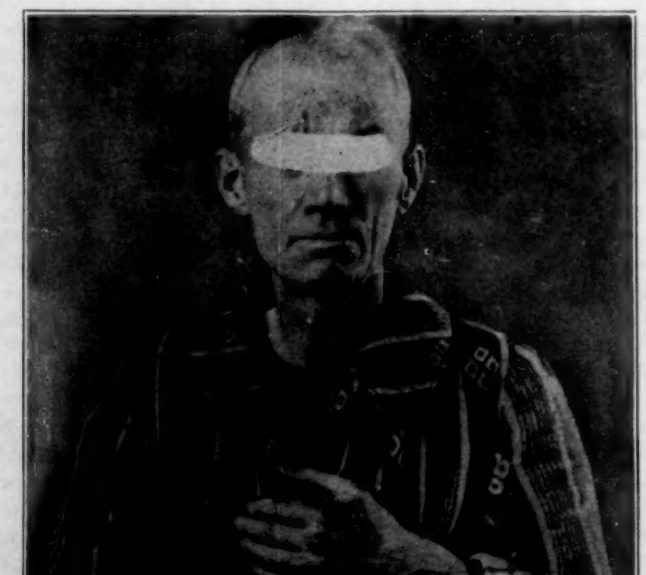
An interesting side-light is thrown on the subject of pellagra by the occasional appearance of the disease in patients with faulty food utilization due to some gastrointestinal lesion.

The observation in the last three years of three such cases has prompted this report and a review of the subject. Pellagra developed in one of these patients during a period of jejunal feeding necessitated by deformity of the stomach by a benign ulcer, and in the other two during progressive carcinomatous pyloric obstruction. Only two similar reports have been found in the literature.



Well developed pellagrous dermatitis on hands, mild lesions on forehead, in Case 1.

Rolph [1] saw a skin eruption, glossitis, pharyngitis and mental symptoms considered typical of pellagra coming on four months before death, in a woman who died after seven months of excessive expectoration with increasing dysphagia, vomiting and emaciation. Postmortem examination revealed a carcinoma of the stomach, which involved the cardia and, acting as a valve, mechanically interfered with the passage of food from the esophagus into the stomach. Since the increased expectoration was an early symptom, and possibly one either of pellagra or of the stomach lesion, Rolph was unable to settle the priority of the two diseases. In this connection, however, he mentioned the rarity of pellagra in Canada, where the patient had lived for twenty-four years preceding her illness. This throws the evidence in favor of the priority of the growth, and suggests the nutritional disturbance produced mechanically by it as the cause of skin and nervous system changes of pellagra, which occurred late in the patient's illness. A more convincing report is that of Bryan,[2] whose patient had had symptoms of peptic ulcer for twenty years with increasing vomiting, very little food having been retained for four months, during which he developed the typical dermatitis and stomatitis of pellagra. Operation revealed a carcinoma of the stomach, which was resected and gastroduodenostomy performed. Recovery from gastric symptoms was good, and in two months both the skin and mouth

* From the Department of Medicine, University of California Medical School.

1. Rolph, F. W.: Cancer of the Stomach and Pellagra in the Same Patient, Canadian M. A. J. **6**: 323 (April 1) 1919.

2. Bryan, R. C.: Cancer of Stomach with Associated Pellagra, Virginia M. Monthly **46**: 107 (Aug.) 1919.

lesions had completely disappeared. Three cases of acute pellagra following operations for suspected gastric ulcer, in two of which "large ulcers" were found, are mentioned by Graves in discussing a paper by Roberts.[3] Unfortunately, he does not mention whether definite symptoms of pellagra preceded the operations, whether the lesions were causing gastric retention, and what the final outcome of the pellagrous symptoms was; so these cases cannot be rightfully included in this group.

The paucity of mention of pellagra, in conjunction with lesions of the stomach interfering with the normal passage of food, suggests, in the light of this report, that the condition has been overlooked or disregarded rather than being one of such extreme rarity.

REPORT OF CASES

CASE 1.—*Benign ulcer of stomach; pellagra developing during period of jejunal feeding and disappearing under general diet after gastro-enterostomy.*

History.—T. B., a man, aged 44, an American, married, a marine engineer, entered the medical service of the University of California Hospital, Oct. 5, 1920, complaining of epigastric pain and vomiting. The family history was irrelevant; his wife and eight children were healthy. He had been subject to tonsillitis until a tonsillectomy was done at the age of 40; he gave no history of venereal or any other infection. He had lived in San Francisco most of his life, never in the Southern states or the tropics. He used tobacco and alcohol to some excess.

The present illness began abruptly four months previously with epigastric bloating two hours after a meal, relieved by vomiting, and a recurring burning sensation in the epigastrium four or five hours after meals, relieved by food. These symptoms had been recurring at from one to three day intervals. His weight had fallen from 185 to 155 pounds (84 to 70 kg.). His diet had always been general.

Examination.—He showed loss of weight, but had no dermatitis. The teeth were in poor condition; active pyorrhea was present; the soft palate, fauces and pharynx were reddened, but the tongue was normal. Examination of the abdomen revealed no abnormality. There was no evidence of disease of the central nervous system. The general examination was otherwise irrelevant.

Roentgen-ray examination showed a large, penetrating ulcer on the lesser curvature of the stomach; there was no gastric retention.

The blood Wassermann reaction was negative. The hemoglobin count was 70 per cent. (Sahli); red cells, 4,140,000; white cell and differential counts, normal. The urine was negative; the stools contained no occult blood or parasites. The patient was unable to swallow a tube for gastric analysis.

Course.—The patient was without discomfort during a week in the hospital, and was discharged, Oct. 12, 1920, on a bland diet.

He reentered the hospital in the surgical service, Feb. 26, 1922, his symptoms having recurred soon after discharge and still persisting in spite of some stomach operation in August, 1921, on the outside. There were no skin, central nervous system or other changes, on general examination. His weight had fallen to 140 pounds (63 kg.).

Roentgen-ray examination showed scarring of the stomach, probably from operation, with hour-glass deformity, and no retention.

First Operation and Result.—An operation, February 27, confirmed the deformity found by roentgen ray, and revealed the stomach so involved in adhesions that gastro-enterostomy was impossible. Jejunostomy was performed with the purpose of again attempting gastro-enterostomy after a period of complete gastric rest. The patient recovered from the operation well and was given nothing by mouth, all nourishment being supplied through the jejunal tube by a mixture of 1,000 c.c. of fresh milk, 540 c.c. of cream, yolks of four eggs and orange juice, yielding between 2,000 and 2,500 calories, and a total of 55 gm. of animal protein. This was tolerated very well, excepting for an occasional day of mild diarrhea. Soon after operation, the tongue began to feel thick and the speech grew less clear; the epithelium of the mouth, tongue and pharynx was moderately inflamed without ulceration. About a month after operation an erythematous area appeared on the dorsum of each hand, gradually spreading. About this time the man grew less reliable, would not cooperate in his feedings, stole food when he got a chance, and was irritable and hard to manage. The mouth, mental symptoms and skin symptoms progressed during the next three weeks (after about two months of jejunal feedings), when the condition was recognized. At this time there was a well demarcated, raised, thickened, deeply pigmented and scaling area covering the dorsum of each hand; the skin of the forehead and chin was moderately pigmented, but not thickened. The epithelium of the mouth, pharynx and tongue was uniformly inflamed, with several denuded areas but no ulceration. There was no discomfort from the hands, and only dryness and a sense of thickness in the mouth. Mentally he was poorly oriented, absolutely unreliable, and unable to solve simple problems in arithmetic, though formerly his work had required this ability. The mild diarrhea continued to recur. His weight was 120 pounds (54 kg.).

The diagnosis of pellagra was made, and the diet was changed to: scraped beef, 250 gm.; milk, 400 c.c.; cream, 750 c.c.; six eggs; puréed peas, 250 gm., and orange juice, yielding about 2,800 calories daily, and 130 gm. of protein, of which 110 gm. was animal protein and 20 gm. vegetable.

On discharge, May 10, three weeks later, he was taking the feedings without distress or diarrhea, and his interest and cooperation had improved so that he was considered competent to continue jejunal feedings at home. Both the mouth and the hands were definitely improved. He reported, May 23; he had taken very little meat, and vegetables only occasionally; the hands and mouth were slightly better, but a new area of pigmentation and thickening had appeared on the nose.

He reentered the surgical service, May 31. In the two months' interval he had been very irregular in his feedings. He was having five to six daily stools; the stomatitis and hand lesions were worse, and the dermatitis on the nose had spread to the chin and forehead. A general examination showed him unchanged otherwise.

Roentgen-ray examination showed the stomach larger than before, but with complete retention of the meal after six hours.

Second Operation and Result.—June 8, the abdomen was reopened, and posterior gastro-enterostomy was done after many adhesions were separated. The jejunostomy was closed.

Recovery from the operation was good, and as soon as possible the patient was put on a full diet, with fresh milk, meats and vegetables by mouth. By July 6, the dermatitis of the hands and face, and the stomatitis, were much improved, but the mental irritability and unreliability and the diarrhea persisted. Repeated stool examinations revealed no parasites. The skin and mouth were practically normal on discharge, July 14, and he was having one or two formed stools daily. He was discharged on this date with instructions to continue the diet.

In September, 1924, he entered the San Francisco Hospital. He reported that he had done very well for a year following operation, having had little gastric distress on general diet, and had gained weight, and the skin and mouth lesions and diarrhea had completely cleared up. About a year before entry, gnawing pain had started in the left upper abdomen, followed by constipation and spells of vomiting. Aside from slight reddening of the pharynx, the mouth and throat were normal; the skin of the hands and face was normal; no note was made of his mental condition. The roentgen-ray showed a new ulcer in the upper pouch of the stomach, with some retention.

Third Operation and Result.—A second gastro-enterostomy was made between this pouch and a loop of jejunum just distal to the stoma of the previous operation. He recovered well from the operation and was discharged much improved, Sept. 20, 1924. He reported in person, Feb. 4, 1925, in response to a letter. There has never been recurrence of skin or mouth changes or diarrhea. He feels that he is mentally as good as

3. Roberts, S. R.: Types and Treatment of Pellagra, J. A. M. A. 75: 21 (July 3) 1920.

ever and has become a successful real estate salesman. He has no digestive difficulty.

CASE 2.—*Pellagra secondary to carcinoma of stomach with pyloric obstruction; transient improvement after gastro-enterostomy; death.*

History.—F. S., a man, aged 59, single, a German-American, a candy-maker, entered the medical service of the University of California Hospital, April 16, 1921, complaining of vomiting and diarrhea. The family history was irrelevant. He had lived in Germany until the age of 16, in this country until 58, and the past year in Manila. He had had typhoid and malaria at the ages of 31 and 37, gonorrhea six times, and chancre without secondary symptoms, at the age of 35, for which he was treated for six months by mouth.

The present illness had started seven months before entry, when he began to vomit. The vomiting grew gradually more frequent, and occurred usually about two hours after meals, without much discomfort. For six weeks before entry, he had limited himself to soft foods, which alleviated vomiting; but in this period he had developed painless watery diarrhea with from six to eight daily stools. In seven months, he had lost 35 pounds (16 kg.)

Four weeks before entry, a rash appeared on the forehead and a week later on the backs of the hands; he had no mouth or central nervous system symptoms. The onset of his illness was in Manila, where he had had little fresh meat, vegetables or milk.

Examination.—Emaciation was marked. On the dorsum of each hand was a sharply demarcated area in which the skin was pigmented a dark brown, roughened, thickened and exfoliating in spots. Similar areas were present on the forehead and nose. The mouth was normal, except for dental caries. The stomach walls were palpably thickened; peristalsis was visible, and after gastric lavage a firm mass, measuring about 4 by 6 cm., was palpable below the xiphoid. The general examination was otherwise negative; no mental changes were noted.

Roentgen-ray examination showed the stomach dilated and peristalsis sluggish; there was an irregular defect at the pylorus and one-half residue after six hours.

In the stomach washings there were old food particles, no free hydrochloric acid, but active rennin and pepsin. Lactic acid was present, but no Boas-Oppler bacilli.

The blood Wassermann reaction was negative. There was a mild secondary anemia, and leukocytosis of 12,400, with 79 per cent. polymorphonuclears. The urine was normal. The stools were watery, and contained mucus and occult blood, but no parasites. Cultures yielded only *B. coli.*

Course.—After repeated gastric lavage, the patient was operated on, April 30, 1921, and a large carcinoma of the stomach, involving and obstructing the pylorus, was found. Metastases in the mesenteric glands were present, and posterior gastro-enterostomy was done, with no attempt to resect the mass.

As soon after operation as possible, fresh fruits, vegetables, milk, eggs and meats were added to his diet. The dermatitis of the hands and face decreased markedly following correction of the obstruction and diet; diarrhea was only occasionally present. However, his general condition became progressively worse; a large decubitus developed in spite of precautions, and he died, July 3, 1921. Permission for a necropsy was not obtained.

CASE 3.—*Pellagra secondary to carcinoma of stomach with pyloric obstruction; death after operation.*

History.—Mrs. M. R., a housewife, aged 67, an American, came to the hospital, March 15, 1924, complaining of upper abdominal distress. The family and past histories were irrelevant. She had lived in Ohio until the age of 37, and in California since, and had never been out of the country.

She had been perfectly well until five months previously, when she began to have upper abdominal bloating and constipation, both progressively worse. In the past five weeks, she had been having sour eructations and abdominal rumbling, and frequently had seen peristaltic waves crossing the epigastrium. Every three or four days, she would induce vomiting and bring up large quantities of material in which she recognized food taken eighteen hours before. She had lost 40 pounds (18 kg.) since the onset.

In the two months before she came for examination she had had a good deal of soreness in the gums and tongue, and the skin on the backs of the hands and forearms and on the neck and face had become darkly pigmented and dry. Her diet had always been general.

Examination.—The loss of weight was evident. The skin of the dorsum of both hands and forearms, especially the former, was dark brown, in contrast to its color elsewhere. These pigmented areas were symmetrical and fairly well demarcated; in them, especially on the hands, the skin was moderately thickened and dry, but the surface was nowhere broken. The cheeks, forehead and sides and back of the neck were the sites of similar but less marked pigmentation and thickening. The surface of the tongue and buccal cavity was unusually smooth and glistening, but not broken. There was a firm mass in the right upper abdomen; frequent gastric peristaltic waves were visible, and definite pyloric stiffening was palpable. The general examination was otherwise negative; no mental abnormality was noted.

Roentgen-ray examination showed a large stomach, in which peristalsis was markedly increased in rate and depth. An irregular defect involved the antrum for a distance of 1½ inches inside the pylorus, causing almost complete obstruction of the pylorus.

Fractional gastric analysis showed no free hydrochloric acid, combined acid 30 in one and one-half hours; rennin and pepsin present; lactic acid and numerous Boas-Oppler bacilli present.

The blood count and the urine were normal; the blood Wassermann reaction was negative.

Course.—A diagnosis of carcinoma of the stomach with pyloric obstruction was made, and the patient was referred for operation to a surgeon in the town in which she resided. The skin lesions, on account of their symmetry, location and characteristics, in conjunction with the changes in the mouth, were considered sufficient for a diagnosis of pellagra.

The surgeon opened the abdomen, March 19, and found an obstructive, infiltrating carcinoma involving the greater portion of the pyloric end of the stomach. Several enlarged glands were also noted posteriorly and adjacent to the pylorus. Posterior gastro-enterostomy was performed without any attempt at resection of the mass. The paitent died fourteen days after the operation.

SUMMARY

In each of these three cases, pellagra developed after the stomach lesion had seriously interfered with the passage of food for some time. In Case 1 the disease developed during the course of duodenal feedings with good animal protein content, improved when this was increased, and disappeared on a general diet by mouth. Surgically relieving gastric retention, in Case 2, and permitting a full diet resulted in improvement of the pellagrous condition, though the patient was dying of cancer. The trial of improving the diet was impossible with Patient 3, who died two weeks after operation.

COMMENT

These observations seem to be of some significance concerning the etiology of pellagra, which is still unsettled. There are two main opposing views, the infectious and the dietary, of which a good account is given by Wood.[4] In brief, in later years the infection theory has been advocated chiefly by the Robert M. Thompson Pellagra Commission,[5] and the dietary deficiency theory by Goldberger[6] of the Public Health Service and his co-workers, who hold that the cause of pellagra lies in a deficiency in the protein content of the diet. The

4. Wood, E. J.: Pellagra, in Oxford Medicine, New York, Oxford University Press 4: 307, 1921.

5. Siler, J. F.; Garrison, P. E., and MacNeal, W. J.: Third report of the Robert M. Thompson Pellagra Commission of the New York Post-Graduate Hospital and Medical School, South. M. J. 11: 786 (Dec.) 1918.

6. Goldberger, Joseph: The Relation of Diet to Pellagra, J. A. M. A. 78: 167 (June 3) 1922.

weight of evidence is decidedly in favor of the latter view. More recently, Goldberger and Tanner [7] have reported experiments to show that they have narrowed the etiologic factor down to an amino-acid deficiency. Exception has been taken to the protein fault theory by Jobling and Arnold,[8] who record experiments to show that pellagra may be the result of the absorption from the intestinal tract of photodynamic substances produced by certain fungi when the diet consists largely of carbohydrates. This view would reconcile the infection and faulty diet theories.

An observation remarkably similar to Case 1 is reported by Goldberger and Tanner.[9] Their patient, on account of prolonged stupor, was fed by tube wholly or partially for months, receiving about 29 gm. of protein daily, solely from the milk in the formula. Four days after a modification of diet, which reduced the amount of milk so that the total protein intake fell to 24 gm. (about 0.5 gm. per kilogram of body weight), pellagra appeared and progressed for three weeks, until the diet was increased by the addition of about 45 gm. of milk protein in powder form, after which there was prompt disappearance of the pellagrous symptoms. Patient 1 was receiving 55 gm. of animal protein (about 1 gram per kilogram of body weight) preceding the onset of pellagra, a theoretically sufficient amount, and started to improve when this was doubled.

In these three cases of this report, the only apparent cause for pellagra was the interference in nutrition, another piece of evidence in favor of the dietetic origin of the disease.

380 Post Street.

POLYCYTHEMIA VERA

REPORT OF TWO CASES *

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Since 1903, when Sir William Osler published a study of polycythemia vera, some attention has been given to the disease, and many cases have been reported. But, since, in spite of several theories, its causes remain to be discovered, and all details of case histories must be considered of value in the study of its etiology, I venture to add these two, which came under my own observation.

REPORT OF CASES

CASE 1.—*History.*—M. S., a woman, aged 32, married, a housewife; has one child, living. She had had mumps, chickenpox and whooping cough in childhood, chorea from 10 to 13 years of age, and was then anemic and thin. Menstruation was regular and normal. She had married at 24. The patient had had tonsillitis every winter from childhood until the tonsils were removed, at the age of 26. At 28 she was in a hospital six weeks for gastric ulcer, and lost 25 pounds (11 Kg.). At 29 she was pregnant, and was normal until the seventh month, but for the remaining two months she was unable to be on foot because of pain in lumbar region of the back. She was delivered instrumentally; the lacerations were repaired five days later. In her thirty-first year she had grip and measles. She had for years suffered with migrane and dizziness.

Two years before I saw her the patient's eyes began to be red and inflamed. On examination, she was told that the trouble was probably with the kidneys. The peculiar, cherry-red, slightly cyanotic color of the skin appeared a little over a year later. The appetite and digestion were good; the bowels were chronically constipated. The patient had palpitation after every meal, and also on exertion or excitement. The systolic blood pressure was about 110. She complained of severe headaches with dizziness, nausea and partial blindness; also severe backache. The legs ached so that she could not sleep. She had pain and a burning sensation in the eyes. The menstrual flow was very scanty; she had taken ovarian extract for a long time without benefit.

Physical Examination.—There was an erythematous, deep cherry-red, slightly cyanotic flush over the entire body, especially marked in the face and hands and in the mucous membranes. The blood vessels of the eyes were markedly injected. The pupils were equal, and normal in size and reaction. The heart and lungs were normal. The liver and spleen were normal in size, the splenomegaly found in some cases being absent in this case throughout. The right kidney was palpable and sensitive. The urine showed occasional traces of albumin and hyaline casts; in fact, on the strength of the urine findings, the patient's case had previously been diagnosed as one of chronic interstitial nephritis. Repeated blood examination showed erythrocytes varying from 7,000,000 to 7,500,000, and leukocytes from 10,000 to 11,200. The Wassermann test was negative.

Stereoroentgenograms of the head revealed an abnormal widening of the grooves for the blood vessels, especially in the parietal and frontal regions and around the bregma. There was also some mottling in the cranium, with alternating areas of increased density and rarefaction, especially in the frontal region. This condition was characteristic of increased intracranial pressure. The sella turcica was normal.

Examination of the eyes showed the pupils slightly asymmetrical, the blue fields slightly contracted, the media clear, the nerve heads clean cut and the veins large and full.

The tonsil scars were normal. The gastric test revealed marked hyperacidity. Proctoscopic examination showed a rectal irritation of long standing.

Diagnosis was made of polycythemia vera, with migraine, hyperacidity and intestinal stasis with toxemia as complications.

Treatment.—Because of recent reports from Vienna giving the consensus of opinion of the cause of polycythemia vera as syphilitic infection, it was thought best, even in the face of the negative reaction to the Wassermann test, and the absence of any suspicious history, to perform a spinal puncture. The attempt was unsuccessful, because the needle entering the canal evidently pierced a blood vessel, and there seemed danger of the rapidly clotting blood causing pressure on the cord. Nevertheless, after consultation, antisyphilitic treatment was given.

The patient was bled, 600 c.c. of blood being removed, by incision of a vein, because the blood was too thick to flow through a needle. For about nine days after the bleeding, the patient's head pains and eyes were greatly relieved, and she had less aching in the back and legs. But at the end of that time these symptoms returned.

Benzene (benzol, C_6H_6) in oil was given, 1 minim (0.06 c.c.) in capsules, three times a day, the dose being increased 1 minim each day up to 15 minims (0.9 c.c.), three times a day. This had to be given up on account of the nausea and dizziness it caused.

The patient was given deep roentgen-ray therapy to the long bones and to the spleen every day for fifteen days. She left us after six weeks' treatment, greatly improved.

This case has been followed up by occasional letters for more than four years, and was given a second period of treatment, in 1923. Following her first treatment with us, under the care of her home physician, she received fairly frequent bleedings, roentgen-ray treatment from time to time, and further treatment with arsphenamin. She improved and felt pretty well for two years, then suffered a return of the worst symptoms—back and leg pains, headache, deep erythema all over the body, with the eyes intensely congested. In addition, she was very tired and weak. All these symptoms were present when she returned to us in October, 1923. She also had distressing heart sensations, a feeling of fulness in the chest and a feeling of choking, as if drowning. She yawned and felt warm all the time, and had dizziness and nausea at times. We found her temperature 98; pulse, 72, tense and full; blood

7. Goldberger, Joseph; and Tanner, W. F.: Study of Treatment and Prevention of Pellagra; Experiments Showing Value of Fresh Meat and of Milk, Therapeutic Failure of Gelatin, and Preventative Failure of Butter and Cod Liver Oil, Pub. Health Rep. **39**: 87 (Jan. 18) 1924.

8. Jobling, J. W., and Arnold, Lloyd: Observations and Reflections on the Etiology of Pellagra, J. A. M. A. **80**: 365 (Feb. 10) 1923.

9. Goldberger, Joseph; and Tanner, W. F.: An Amino-Acid Deficiency as the Primary Etiologic Factor in Pellagra, J. A. M. A. **79**: 2132 (Dec. 23) 1922.

* From the Battle Creek Sanitarium Clinic.

pressure, systolic, 94. She was in an extremely nervous state, and had been smoking ten cigars a day, as a narcotic. She reported that frequent urine tests had shown no albumin or casts except a trace of albumin shortly after her return home. The urea and chlorids had been low. The erythrocyte count had been, in August, 1919, 5,030,000; in June, 1923, 7,200,000.

My physical examination revealed nothing new. The spleen was still not enlarged. There was again a catarrhal and somewhat static condition of the colon. The bleedings were again resorted to, and gave relief as before. Hydrotherapy seemed to help considerably. Roentgen-ray treatment to the long bones was repeated, and continued after she left.

After leaving, she reported to me by letter. In November, 1923, the blood examination before roentgen-ray treatment showed: erythrocytes, 7, 930,000; leukocytes, 12,500; in December, 1923, erythrocytes, 7,900,000; leukocytes, 11,200; hemoglobin, 100 per cent.; in January, 1924, erythrocytes, 7,420,000; leukocytes, 8,200; hemoglobin, 118 per cent. She stated that her head did not feel so full.

CASE 2.—*History.*—A. K., a woman, aged 45, white, single, seen July 20, 1923, had had fair health as a child; with measles at 21. She had irregular menstruation. At 23, the appendix was removed because of chronic infection. The gallbladder was also removed. At 25, the patient had a fall, and later was operated on twice for a retroversion, and had one ovary removed. A year later, on account of uterine fibroids, a hysterectomy was performed, and six months later the cervix was removed. She had food poisoning once, and numerous lighter similar attacks. She had grip twice; two years prior to examination, she had influenza, and whooping cough, which lasted three months. During the previous winter she had a nasal hemorrhage, which was severe enough to require hospital treatment.

As far as I could learn, her illness began about two years previous, with sensations of fulness and pounding in the head and neck, at first confused with migraine, from which she also suffered. She developed backache, and aches in the legs, with marked weakness and weariness.

Physical Examination.—There was an erythematous, somewhat cyanotic, condition of the skin, especially of the hands, lips, conjunctiva of the eyes and mucous membrane of the mouth. There was stiffness of the fingers at times. The spleen was very much enlarged and palpable a finger's breadth below the rib margin. The liver margin was sensitive. The lungs were negative. The heart was slightly enlarged. The blood pressure was: systolic, 166; diastolic, 114.

The blood count when first taken was: red cells, 7,070,000; white cells, 12,000; hemoglobin, 94 per cent. The Wassermann test was negative. The phenolsulphonephthalein test for renal efficiency showed a total output of 37 per cent. The urine showed occasional traces of albumin and occasional hyaline casts.

Treatment.—The treatment, except for the antisyphilitic treatment, was given as in Case 1. Bleeding was begun, August 7. Saline solution was not introduced to replace the blood, because of the hypertension existing. Deep roentgen-ray therapy to the long bones and the spleen and the administration of benzene in oil were begun, August 8.

Variation in the blood counts is shown in the accompanying table:

Variation in Blood Counts

Date	Red Cells	White Cells
August 3	7,750,000	13,200
August 15	7,410,000	14,100
August 19	7,300,000	11,700
August 23	6,460,000	9,000
August 31	7,180,000	13,200
September 2	7,160,000	10,800
September 3	6,600,000	13,200
September 6	6,980,000	14,000

Examination of the patient, August 28, showed improvement in her general appearance; she did not look so tired. But the hands, though less cyanotic, had a red, scalded look. The spleen was reduced in size, dulness coming to within the rib margin. The blood count was: red cells, 6,600,000; white cells, 13,200. September 7, a test for the cholesterol content of the blood showed it to be normal, 140.2. The blood flowed more freely and did not clot as quickly as before.

The patient was discharged September 13, continuing the roentgen-ray treatment at home. A blood test made in February, 1924, after treatment, showed about as high a red cell count as at the beginning of treatment.

COMMENT

There is nothing exceptional in these cases, unless it be that both were in women, while the disease as reported occurs oftenest in men, and that splenomegaly was absent in one. The family history was especially significant in neither.

Both patients had had a good deal of illness, with operations. Both had had infections of various kinds. Both had slight albuminuria at times during the course of the disease. In one, the blood pressure was low; in the other, there was some hypertension. Both complained of severe headaches, which from the description would be classified as migraine. Both patients gave a history of menstrual disorder; both had evidence of ovarian deficiency. Although the number of cases is too small to lead to theories, it seems to me quite possible that there is an association between endocrine deficiency and polycythemia vera.

PHOSPHORUS POISONING IN A CHILD, FROM THE INGESTION OF FIREWORKS *

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Acute phosphorus poisoning has been relatively infrequent in recent years, owing to the fact that the poisonous form, yellow phosphorus, has been practically eliminated from the trades by legislation, and the red, or nonpoisonous variety, substituted. However, the following case illustrates a possible danger, in the hands of children, of an article of fireworks, containing poisonous phosphorus, sold under different trade names and intended to be crushed under the heel.

REPORT OF CASE

Henry R. was 3 years old July 4, 1924. On that day he ate a "spit devil." The next day there was great abdominal pain and frequent vomiting. He was given 1 ounce (30 c.c.) of castor oil and one-half ounce (15 gm.) of Epsom salt, which was soon vomited. He was brought to the Children's Mercy Hospital, July 7.

He was drowsy and difficult to arouse, the skin was ashen gray, the mucous membranes were cyanotic, and a slight general anasarca was present. The heart was rapid, the pulse was almost imperceptible and mucous rāles were scattered throughout the lungs.

The liver was enlarged, approximately 15 cm. below the costal border. The spleen was not palpable and the entire abdomen was tender. The stool was clay colored, no urine was voided, and the blood showed: 26,000 leukocytes; 4,000,000 erythrocytes; 64 per cent. neutrophils and 25 per cent. lymphocytes.

Treatment consisted of egg white, solution of potassium permanganate and oil of turpentine by mouth, hypodermic stimulation and proctoclysis. Later in the day the abdomen became markedly distended and very sensitive to palpation over the liver. The patient died at 4:30 a. m., July 8.

NECROPSY

The skin was slightly darker than normal. There was no free fluid in the pleural cavity. The heart and lungs were apparently normal, with the exception of fibrous adhesions to the thoracic wall and diaphragm at the base of the right lung.

* From the departments of pediatrics and pathology, University of Kansas School of Medicine, and the Children's Mercy Hospital.

The abdominal cavity contained no free fluid. The liver was light yellow, glistening and much enlarged. The gallbladder was small, about the size of a child's little finger. The spleen was friable and gray. The bladder was full of urine, which was found to contain albumin. The mesenteric glands were enlarged, and Peyer's patches inflamed. There were no hemorrhages into the tissues or body cavities.

The heart weighed 75 gm., and showed no gross fatty change or subendothelial hemorrhages. The liver presented a very interesting picture. It weighed 725 gm., showed a bright yellow, shiny capsule, and on section presented a yellowish white, homogeneous, greasy surface, with obliteration of the lobulation and normal gross markings. The kidneys were enlarged, and together weighed 110 gm. The capsules stripped easily, leaving a smooth injected surface, with conspicuous dilatation of the arcuate vessels and some small petechiae dotted here and there. On section, the pyramids were grayish white, while the cortical portion had a yellowish mottled appearance. The stomach showed a marked catarrhal gastritis, with prominence of the rugae but no garlic odor. Peyer's patches of the intestine were prominent, and the serous vessels posterior to the patches were dilated. Gross hemorrhages were seen only in the thymus gland, which weighed 25 gm., and showed diffuse superficial hemorrhages and some small petechiae extending from the capsule into the thymic substance. The other organs presented nothing worthy of note.

Microscopically, the heart showed prominent cross striations and some small, clear, irregular droplets in certain areas in the cytoplasm. There was a high degree of fatty change in the liver, with droplets of varying sizes scattered diffusely throughout the entire lobule, with marked parenchymatous degeneration of the cytoplasm of the liver cord cells. There was also considerable swelling of the parenchymatous cells, with sinusoidal obliteration. The kidney showed marked fatty change in the convoluted tubular epithelium and descending loops of Henle. Some of the collecting tubules were likewise affected. There was intense congestion of the capillaries and vessels, which was most noticeable in the medullary portion. No interstitial infiltration of lipoid globules was seen except in the fat stained sections. The glomeruli were all free from infiltration with fat. Section through the intestine showed considerable lymphoid hyperplasia and endothelial proliferation in Peyer's patches. There were numerous plasma cells and many large vacuolated cells with small nuclei resembling the so-called "myelin cells" or lipoid cells seen in chronic inflammatory processes.

A series of lipoid stains were employed and the bulk of the fat found was glycerol ester, which stained bright red with scharlach R, pink to red with Nile blue sulphate, and not at all with neutral red. The use of the polarizing microscope showed that, aside from some small areas in the kidney, which were chiefly interstitial accumulations, and a rather sparse unlocalized distribution throughout the liver, the bulk of the fat failed to be doubly refractile. These areas in the interstitial substance of the kidney and the deposits in the liver took a light orange stain with scharlach R; blue, dark blue or purple with Nile blue sulphate, and no stain with neutral red; while under the crossed Nichol's prisms, they showed marked double refraction. From these findings, we concluded that they were doubtless cholesterol esters.

The diagnosis was: diffuse, fatty change in the liver, kidney and heart muscle; catarrhal gastritis; lymphoid and endothelial hyperplasia of Peyer's patches; chronic adhesive pleurisy, and thymic hyperplasia with capsular hemorrhages.

OTHER CASES

The Division of Industrial Hygiene of the New York State Department of Labor has records of poisoning in children from yellow phosphorus contained in fireworks. The following description is taken from their bulletin:

It was found that the poisonous variety is used in a red composition that appears on the market under various trade names, such as "spit devil," "son-of-a-gun" and "devil-on-the-walk." When ground under the heel on the sidewalk, they continue to crack and spit and sputter. The compositions have a strong odor of phosphorus.

Chemical analysis of the composition shows that it contains several per cent. of yellow phosphorus. The remainder of the composition consists of four comparatively nonpoisonous constituents; namely, potassium chlorate, iron oxid, magnesium carbonate and gum arabic.

The division has record of seven deaths of little children, who have put the composition in the mouth. It is evident, therefore, that the paper or sand coating and the magnesium carbonate, which are supposed to act as a preventive and an antidote, respectively, are not effective. . . . On account of hazards such as these described, one of the largest fireworks companies in the country has issued a circular letter to the trade stating that, in the future, the company would not manufacture or handle this type of fireworks. . . . It is recommended that rigid restrictions be placed upon the manufacture and storage of phosphorus fireworks.

Reports of chronic poisoning of workmen in the roach paste and match industry, from the inhalation of the fumes of phosphorus, are not uncommon. The bones are usually most severely attacked in chronic poisoning, especially the maxilla, a focus of infection, making the bone prone to the ravages of the poison.

TREATMENT

It is generally known that the solubility of phosphorus is increased by fats and oils, and that castor oil is contraindicated as a purgative in phosphorus poisoning. A saline cathartic, following such oxidizing agents as old French oil of turpentine, hydrogen peroxid and potassium permanganate, has long been used. Atkinson[1] has recently experimented on dogs with liquid petrolatum, following a lethal dose of yellow phosphorus, and has demonstrated its value. It is a solvent and is not absorbed.

We have carried out some experiments along the same line, using a suspension of "spit devil" in water, followed by castor oil, cotton seed oil, liquid petrolatum and lavage. The fireworks is not very soluble in carbon bisulphid or oils, as is yellow phosphorus, and it was crushed in a mortar under water and given by stomach tube.

It was found that a "spit devil," if not vomited, killed the animal. Castor oil given as an antidote failed to protect the dog, although it did not hasten death. Cottonseed oil likewise failed. Liquid petrolatum given one hour after the lethal dose protected the dogs. Stomach washing or vomiting proved efficacious. Lavage in one, two, five and ten hour periods following the lethal dose was found to give protection at the one and two hour periods, but was fatal when delayed as long as five hours. One dog that vomited one hour after the poisoning was given castor oil twenty-four hours later, and lived.

It would seem from these experiments that the administration of liquid petrolatum as advocated by Atkinson, and lavage, are the logical procedures in this form of poisoning.

PROTOCOL OF EXPERIMENTS

A. Two dogs, weighing from 10 to 12 kg., were each given a "spit devil" in water. One died in eighteen hours, the other in twenty-six hours.

B. Three dogs (from 10 to 12 kg.) were each given a "spit devil" in castor oil.

Dog 1 died in twenty-eight hours.

Dog 2, given lavage in one hour, lived.

Dog 3, given lavage in two hours, lived.

C. Four dogs (from 10 to 20 kg.) were each given a "spit devil" in water.

Dog 1. Was given castor oil in one-half hour, vomited all in one hour, and lived.

Dog 2, given castor oil in one hour; died in ten hours.

1. Atkinson, H. V.: Treatment of Phosphorus Poisoning, J. Lab. & Clin. Med. 7: 148 (Dec.) 1921.

Dog 3 (20 kg.), given castor oil in twenty-four hours, died in fifty hours.

Dog 4 vomited in one hour, was given castor oil in twenty-four hours, and lived.

D. One dog (12 kg.) was given a "spit devil" in water. Cottonseed oil was given one hour later; the animal died in thirty-six hours.

E. Four dogs (from 10 to 14 kg.) were each given a "spit devil" in water.

Dog 1, given liquid petrolatum, 50 c.c., immediately, lived.

Dog 2, given liquid petrolatum in one hour, lived.

Dog 3, given liquid petrolatum in one hour, vomited in two hours, and lived.

Dog 4 vomited one hour later, was given petrolatum in twenty-four hours, and lived.

F. Four dogs (from 10 to 14 kg.) were each given a "spit devil" in water.

Dog 1, given lavage in one hour, lived.

Dog 2, given lavage in two hours, lived.

Dog 3, given lavage in five hours, died in thirty hours.

Dog 4, given lavage in ten hours, died in thirty-one hours.

Necropsy material from the five dogs that were killed with phosphorus revealed strikingly similar changes. Grossly, a tendency to subendothelial hemorrhage was noted in several instances, which was particularly marked, under the pleura, in two cases, and beneath the endocardium, in one. All of the livers save one presented easily recognizable fatty change, showing all gradations from soft, mottled, slightly enlarged organs to pale yellow, greasy, markedly enlarged types. Histologically, an advanced degree of fatty change was seen in all the specimens. The change was predominantly one of marked granular degeneration of the hepatic parenchyma with complete loss of outline, all portions of the lobule showing varying sized droplets of lipoid material in the liver cells. In most cases this material showed a general tendency to collect in large quantities about the central veins. The kidneys in all cases were somewhat enlarged; two specimens showed subcapsular hemorrhages, and all of them histologically closely paralleled the child's kidney described previously. The stomachs of three of the dogs, in addition to the prominence of the rugae and thick, tenacious, catarrhal gastritis, which was seen in all but one case, presented superficial epithelial necrosis, with swelling and considerable vacuolization of the glandular cells.

Differential fat stains used in this series of animals showed similar results to those found in the human organs, with the exception that the infiltration of cholesterol esters was almost negligible in the livers and absent in the kidneys.

The diffuse and rapid infiltration of fat into the organs suggests a transportation of lipoids, and in the following protocols is shown an increase in blood cholesterol after poisoning.

CHOLESTEROL IN PLASMA

Dog A, given a "spit devil" in water, vomited in one hour, and lived. The cholesterol before the "spit devil" was 148.14; twenty-four hours after the "spit devil," 169.

Dog B, given a "spit devil" in water, vomited in one hour, and lived. The cholesterol before the "spit devil" was 123.70; twenty-four hours after the "spit devil," 140.84.

Dog C, given a "spit devil" in water, died in fifty hours, with fatty degeneration of the liver. The cholesterol before the "spit devil" was 130.42; twenty-four hours after the "spit devil," 141.20.

The finding of an increased cholesterol content in the blood in these animals suggested the possibility that there might have been a more marked deposition than was actually found.

The work of Ssokloff [2] on hypercholesterinemia in phosphorous poisoning, wherein he noted a slight increase in the blood cholesterol, is quite similar to our results. We likewise showed a considerable difference between rabbits and dogs, which would suggest that perhaps man might also react differently. Rabbits respond more markedly and are much more easily cholesterinized. The decided increase of cholesterol ester deposited in the human liver over that found in any of the dog livers is of some speculative interest.

SUMMARY

A case of fatal phosphorous poisoning in a child resulted from swallowing fireworks. In animal experiments performed to determine the value of certain remedial measures and the pathologic changes brought about by phosphorous poisoning, castor oil was found to be ineffective as an antidote, but did not seem to increase the absorption of the drug. Liquid petrolatum and also lavage one or two hours after the lethal dose proved effective.

Histologic studies showed that phosphorus produced a marked catarrhal gastritis with superficial epithelial necrosis. The liver showed very pronounced fatty changes, which to a lesser extent were also found in the heart and kidney. Microchemical studies indicated that the bulk of this fat was glycerol ester. Cholesterol determinations on the plasma showed a definite increase twenty-four hours after phosphorus was given.

400 Portsmouth Building.

ROSEOLA OF THE CONJUNCTIVA

A SUBACUTE EXANTHEMATOUS CONJUNCTIVITIS, PECULIAR TO SECONDARY SYPHILIS; REPORT OF THREE CASES

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There is a type of conjunctivitis seen in exanthematous diseases such as measles, smallpox, typhus and scarlet fever, usually preceding the skin manifestation. The pathologic changes in this form of conjunctivitis are analogous to those in the eruption of the skin. It is in reality a form of hyperemic conjunctivitis with red blood cell diapedesis, wherein it varies, I believe, from the ordinary forms of conjunctivitis, in which the conjunctiva can be blanched by pressure or instillation of epinephrin. The conjunctivitis of the exanthematous type is characterized by its suddenness of onset, lack of discharge, some photophobia (not found in usual forms of conjunctivitis) and little or no lacrimation.

The symptoms develop in a subacute or chronic manner, with an itching and sometimes burning sensation of the eyes. This disease picture is so common in early measles that further description is unnecessary.

I have recently observed several cases of exanthematous or roseolar conjunctivitis develop which could not be ameliorated by any of the recognized forms of treatment for conjunctivitis. In fact, the hyperemia had persisted for many weeks before I saw the cases; and with this history and other findings I found the cause to be syphilis, and cured it promptly by institution of antisyphilitic treatment.

Exanthematous conjunctivitis is often seen also in pityriasis and psoriasis, but, of course, the treatment is

2. Ssokloff, N. C.: Experimentelle Untersuchungen über die Hypercholesterinämie, Virchows Arch. f. path. Anat. 245: 210, 1923.

different. One of the three cases reported here was complicated by pityriasis, which the patient had had some time previous.

The patients in the cases reported never knew or were informed of a syphilitic infection, and had no other evidences of it. I was led to the diagnosis of syphilis by the following suggestive symptoms. In most cases of this disease the onset was sudden but mild, and the course chronic or subacute, without any noticeable discharge, not even slight gluing of the eyelids in the morning. In other words, the eyes became red, at a certain time which the patient could definitely remember, but the symptoms were otherwise so slight that the affected patients did not consult a physician for some time.

The condition was ascribed to the usual cold.

When a patient has secondary syphilis, with its characteristic rash, this eye condition has been noticed by many as a by-product of the disease, and not much importance has been laid to it as a suggestive symptom of syphilis.

The cases selected for report here were referred to me by reputable physicians, with the history that the inflamed eyes would not improve under the ordinary treatment for conjunctivitis, as known; in fact, they would not have improved in the most competent hands unless the underlying cause was treated.

REPORT OF CASES

CASE 1.—J. A. S., a man, aged 35, a salesman, was referred to me by his physician, Sept. 12, 1924, with a history of redness and pain in the eyes, and slight photophobia, for more than three weeks, without any relief from any form of treatment or applications. He was annoyed by the appearance of his eyes, which at first were a bright red, and now were a dusky red, almost purple hue. The pain was severe at night or in a warm room. This pain had developed within the last few days.

The vision was: right eye, 20/20; left eye, 20/20. The pupils reacted to light and in accommodation, direct and consensually.

The patient gave a history of having had a skin disease during the previous year, which was diagnosed by a dermotologist as pityriasis, and was treated with cure, except for a slight recurrence on the scalp. The Wassermann reaction at the time was negative. The conjunctivae were of a dark, reddish color, which did not blanch on pressure or on the instillation of epinephrin, which I have found often as of diagnostic value to differentiate between ordinary forms of conjunctivitis and the exanthematous or diapedetic types. No local treatment of any kind gave relief.

There was evidence, three days later, of increased pericorneal injection, without evidence of iritis; but, with the ciliary injection as noted, it was certainly impending, as I know from another case in which the antisyphilitic treatment was not instituted as promptly as in these cases. Furthermore, the instillation of atropin did not relieve the pericorneal injection or any of the symptoms. At this time the Wassermann reaction was 4+.

The patient was surprised on being informed of his disease. On going over his history again and questioning him more closely, I elicited a questionable history of an initial sore. There was evidence of a faint skin rash on the face and scalp, which the patient insisted was his old rash coming back; nevertheless, with the proper institution of antisyphilitic treatment, the rash disappeared promptly with the eye disease, in less than forty-eight hours. No relapse has been observed.

CASE 2.—Mrs. M. E., aged 41, Swedish, referred by her physician, an ear, nose and throat specialist doing some eye work. She had been under his care for conjunctivitis for two weeks without any improvement. I first saw the patient, Dec. 17, 1924. She had had an attack of "inflamed eyes" at 13 years of age and another attack seven years before. She remembered that these attacks had persisted for a long time, while under a specialist's treatment.

This attack was of five weeks' duration, and she said that her eyes became red suddenly and simultaneously, in the morning of a certain day; there was slight photophobia, but no lacrimation or discharge.

The vision was: right eye, 20/50; left eye, 20/100. The conjunctival of both eyes were hyperemic. In the right eye there were punctate deposits in the lower part and deeper layers of the cornea, and descemetitis. In the left eye a large diffuse macula was present, occupying the lower third of the cornea, which the patient said had been present for about one year. Atropin had been prescribed without relief from the redness and symptoms. The Wassermann reaction was 1+, and on the following day the patient noticed a rash on the neck and chest. This proved to be a roseola. Within the week a full dose of neo-arsphenamin was administered intravenously, with rapid disappearance of the rash. The eye condition cleared up almost entirely within ten days. The whole condition in the bulbar conjunctiva subsided. Weekly injections of neo-arsphenamin were continued, and the punctate deposits in the cornea of the right eye cleared up entirely; no local treatment was necessary, because it was of no benefit. The patient was improved; the Wassermann reaction was negative, after four injections of neo-arsphenamin, and further treatment was being given as needed. Six weeks after beginning treatment, vision was improved to:

O. D. 20/30 with + .50 = — .25c × 105 to 20/20
O. S. 20/50 with + .50 sph. to 20/30

This case shows that there had already begun an anterior uveitis with descemetitis, which might have endangered the eye if the cause was not soon recognized. Local treatment, as a rule, is of no avail in these cases.

It has been my experience in a great many instances that, in most cases of secondary syphilis, iritis does not develop except perhaps by extension from the conjunctiva at the limbus, due to absorption of toxic material.

Syphilitic iritis, per se, is a late secondary or early tertiary manifestation of syphilis.

CASE 3.—Miss J. B., aged 24, called at my office, Aug. 20, 1923, complaining that she had had inflamed eyes for seven weeks. The eyes were typical of measles, without lacrimation; there was some pain, worse in the left eye. There was no discharge, but some photophobia. The pain was worse at night. The left eye had a tender area on the bulbar conjunctiva to the left of the cornea, that is, temporally, suggestive of episcleritis, but not ameliorated by any of the treatment used for this condition, such as salicylates, intestinal elimination, and ethylmorphin hydrochlorid locally. As in the other cases, nothing locally relieved any of the symptoms.

Because of the chronicity of the hyperemia, and because the epinephrin and pressure tests were negative, as mentioned above, a tentative diagnosis was made of syphilitic exanthematous conjunctivitis. A Wassermann reaction of 3+ confirmed this diagnosis, as did the therapeutic test that followed. One injection of neo-arsphenamin cleared up the eye condition, and the patient was referred to her physician for further treatment.

COMMENT

In these types of conjunctivitis, the ocular condition is similar in appearance and symptomatology to a form of traumatic conjunctivitis known as conjunctivitis actinica (sunburn) "Klieg eyes," which is common in arc welders and motion picture actors. But here the condition is transient, depending on removal of the cause. The latter condition is of similar pathology, and I have produced it artificially with the Kromayer lamp exposure for other effects, and have studied it with a powerful microscope. It is a severe hyperemia, with some diapedesis of the blood elements.

Roseolar or exanthematous conjunctivitis is much more common in a varied ophthalmic practice than the other ocular manifestations of syphilis externally.

Fuchs, in his most recent English edition, mentions the condition, but not particularly as diagnostic of secondary syphilis. Dr. Weeks, in his textbook, men-

tions the condition, and refers to it as papulomacular affection of the conjunctiva. It is a much more common condition, I think, than the other syphilitic lesions he mentions, such as chancre, copper spots and mucous patches. In a varied practice of more than eighteen years, I have seen the condition rather frequently. I have tried to describe it in detail, for general enlightenment. The other external ocular manifestation of syphilis I have seen in isolated instances as rare and curious cases. Most of the latter were exhibited in clinics or meetings, for their rarity. Others were read about.

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INTRADERMAL SALT SOLUTION TEST IN LOBAR PNEUMONIA IN CHILDREN *

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McClure and Aldrich [1] found that the elevation produced by intradermal injection of 0.2 c.c. of an 0.8 per cent. aqueous solution of sodium chlorid became impalpable much more quickly in a group of children having edema than in a group of control cases. While in the individual edematous patient the disappearance of the elevation was less rapid in skin areas in which pitting by pressure was not demonstrable than in areas in which palpable edema was present, yet even in the nonpitting areas the disappearance was considerably more rapid than in the control cases. In a later paper [2] they report the results of use of this test in sixteen cases in children characterized by generalized edema with albumin, casts and, in some cases, red blood cells in the urine, with absence of nitrogen retention in the blood and without evidence of cardiovascular disease. They found that in a general way the greater the edema the shorter was the disappearance time, and vice versa. They state that their results seem to justify the conclusions that in such cases the test is of value in determining the immediate prognosis and in directing the treatment, and that the results seem to substantiate the theories that the tissues in this type of case actively participate in the production of edema. They further state that their results can be explained on the assumption that a general intoxication, resulting from infection, causes a change in the tissues, which increases their avidity for water. In this paper they refer also to the finding of a shortened disappearance time in certain cases of cardiac disease, anemia and postfebrile scarlatina, without apparent edema, and state that in these conditions either a local or a general intoxication may be assumed to be present.

Baker [3] used the test in seventy scarlet fever and thirty diphtheria patients, principally children, and found in these diseases a reduction of the disappearance time, with a close relationship between the amount of the shortening of the time and the severity of the intoxication of the patient. He states that the test appears to be an aid in these diseases in indicating how the patient is getting along and in predicting the outlook for the near future.

The present study was undertaken with the purpose of determining whether in lobar pneumonia the test would show changes in the skin indicative of a tendency to edema and of tissue intoxication, and incidentally to determine what effect, if any, fever has on the tissues' avidity for water.

In the tests, the technic described by McClure and Aldrich [1] was followed. By this method 0.2 c.c. of sterile 0.8 per cent. aqueous solution of sodium chlorid is injected intradermally under aseptic precautions into the flexor surface of the forearm, or in the leg, or in both, and the persistence of the resulting elevation, as determined by its detection by palpation, is accurately timed. The time for the normal child, over 1 year of age, is somewhat more than sixty minutes.

The patients tested were all acutely ill children ranging in age from 2 to 14 years. In none was there any edema demonstrable by pitting. The test was repeated at intervals throughout the course of the disease, and in some instances again at a later date when the child returned to the outpatient department.

The accompanying table shows the results obtained.

Observations in Cases of Lobar Pneumonia

Case	Age, Years	1924 Date of Test	Disappearance Time, Min.*	Urine	Temperature, F.	Comment
1. N. P.	2	3/ 8	20	Normal	101	Crisis
		3/12	30	Normal	99	
		3/17	45	Normal	98	
		3/21	50	Normal	98	Discharged from hospital
2. T. Z.	2	3/ 5	40	Normal	102	Also had an old encephalitis with convulsions
		3/ 8	28	Normal	101.5	
		3/12	40	Normal	99.8	Recovering by lysis
		3/17	65	Normal	98.8	
		3/21	86	Normal	99	
3. J. M.	3	3/ 8	15	Albumin, leukocytes	104	Critically ill; meningeal symptoms
		3/12	25	Albumin, leukocytes	105.6	Critically ill
		3/17	35	Albumin	100.6	Critically ill
		3/21	29	Albumin, leukocytes, occasional cast	102	
		3/23	..	.....	...	Died; necropsy findings included left lower lobar pneumonia with miliary abscesses and fibrinous pleurisy; edema of leptomeninges, mucopurulent otitis media and mastoiditis bilateral
4. V. B.	3	4/11	18	Normal	101.8	
		4/15	10	Normal	98	Crisis 36 hours previously
		4/16	20	Normal	98	
		4/21	27	Normal	98	
		4/23	30	Normal	98	
5. C. G.	3	3/ 8	10	Normal	99	Crisis
		3/12	35	Normal	99.8	
		3/17	50	Normal	99.4	
		3/21	52	Normal	97.2	Discharged from hospital
6. M. T.	6	2/11	20	Normal	103	Typical lobar pneumonia
		2/13	25	Normal	98	Day following crisis
		2/15	18	Normal	98	Three days following crisis
		2/18	30	Normal	98.6	Six days following crisis
		3/ 8	37	Normal	Normal	Return to dispensary, 21 days following crisis
		3/18	45	Normal	Normal	One month six days following crisis
7. C. S.	7	3/ 5	33	Trace of albumin	105	Typical lobar pneumonia
		3/ 8	30	Normal	99	Crisis
		3/12	45	Trace of albumin	99.2	Four days after crisis
		3/17	80	Normal	99	Nine days after crisis
		3/21	80	Normal	98	Discharged from hospital
8. O. K.	8	1/19	A 15 L 15	Albumin Acetone	103	Typical lobar pneumonia
		1/22	A 20 L 25	Albumin Acetone	98	Twelve hours after crisis
		1/28	A 55	Normal	98	Six days after crisis
		2/ 1	A 50	Normal	98	Ten days after crisis
		2/ 3	..	.....	...	Discharged from hospital

* A, arm; L, leg; when not designated, test was made on arm.

* From the Otho S. A. Sprague Memorial Institute Laboratory of the Children's Memorial Hospital.

1. McClure, W. B., and Aldrich, C. A.: Time Required for Disappearance of Intradermally Injected Salt Solution, J. A. M. A. **81**: 293-294 (July 28) 1923.

2. Aldrich, C. A., and McClure, W. B.: The Intradermal Salt Solution Test, II, Its Prognostic Value in "Nephritis" with Generalized Edema, J. A. M. A. **82**: 1425-1428 (May 3) 1924.

3. Baker, W. J.: Intradermal Salt Solution Test in Scarlet Fever and Diphtheria Patients, J. A. M. A. **83**: 1566-1567 (Nov. 15) 1924.

Observations in Cases of Lobar Pneumonia—Continued

Case	Age, Years	1924 Date of Test	Disappearance Time, Min.	Urine	Temperature, F.	Comment
9. H. M.	8	4/11	23	Normal	98.8	
		4/13	..	.....	...	Crisis
		4/15	25	Normal	98.4	
		4/18	30	Normal	98	
		4/21	33	Normal	98	
		4/23	75	Normal	98	
		5/12	80	Normal	98	Returning to dispensary
10. C. B.	9	4/ 1	30	Normal	104	
		4/ 4	38	Normal	105	Temperature dropped to 99 later in day
		4/ 8	40	Normal	99	
		4/11	37	Normal	98.6	
		4/15	26	Normal	98	Recovering without complication
		4/24	42	Normal	98	Returning to dispensary; gaining weight, in good condition
		5/ 4	40	Normal	98	Apparently in normal health, back in school
11. D. O.	9	1/22	A 20 L 15	Trace of albumin, acetone	103	Frank lobar pneumonia
		1/25	A 15	Trace of albumin, acetone	99	Twelve hours after crisis
		1/28	A 60	Normal	98	Three days after crisis
		2/ 1	A 55	Normal	98	Seven days after crisis
		2/ 3	..	.....	...	Discharged from hospital
12. M. B.	14	1/22	A 25 L 25	Trace of albumin, acetone	103.8	Meningeal symptoms, delirium
		1/25	A 13	Trace of albumin, acetone	98.6	Six hours after temperature drop
		1/28	A 45	Trace of albumin, acetone	98.6	Three days after crisis
		2/ 1	A 45	Normal	98.6	Seven days after crisis
		2/ 3	..	.....		Discharged from hospital

In analyzing the results shown in the table it is seen that, when compared with the time for normal children, sixty minutes plus, in every case there is a marked shortening of the disappearance time. There is no constant relationship between the height of the fever and the disappearance time, and no abrupt change following the crisis. In most instances there is a slow return toward a normal time, which in two cases (6 and 10) was still not nearly attained when examined a month after the crisis.

The slow return to a normal disappearance time would seem to be in accord with the findings of Maver and Schwartz,[4] who, at this institute, studied edema in pneumonia in children by means of Schade's elastometer (an instrument with which it is possible to detect edemas not appreciable by palpation). They found the presence of slight or moderate edema in each of a series of ten cases of pneumonia, none of which showed palpable edema, with a tendency to return very slowly to normal after the crisis. Occasionally the return was nearly complete soon after the crisis; in other cases, slight elasticity loss persisted long after apparent convalescence. They also found that the sodium chlorid concentration in the blood serum usually rose to normal long before the elasticity curve became normal.

Dr. A. C. Swartz, working in this institute, previously studied with the intradermal salt solution test four cases of lobar pneumonia in children aged 2, 2½, 3 and 5 years, respectively, and his results are reported here with his approval. He found a marked shortening of the disappearance time, with a tendency to a slow return toward normal following crisis. He considered that this shortening of the disappearance time was most likely due to a toxicity (or acidosis).

4. Maver, Mary E., and Schwartz, A. B.: Studies of Edema in Pneumonia, Arch. Int. Med. **17**: 459-464 (April) 1916.

CONCLUSIONS

In lobar pneumonia in children:

1. There is a considerable shortening of the disappearance time of intradermally injected salt solution.
2. The crisis has no immediate effect on the length of the disappearance time.
3. After the crisis, the return to a normal disappearance time is usually slow.
4. It is suggested that this effect on the disappearance time indicates an intoxication of the tissues, which is more persistent than is ordinarily considered to be the case.

A SIMPLE IMMEDIATE TREATMENT FOR VOMITING

PRELIMINARY NOTE *

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AND
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ST. LOUIS

In a previous communication [1] we reported, among other observations, the effect of oral administration of a 2 per cent. solution of sodium chlorid on upper gastro-intestinal peristalsis in a patient suffering from a complete intestinal fistula high in the bowel. The effect was a prompt secretory and forward motor activity, abolishing reverse peristalsis if that was present. In concluding the paper we made the following statement: "This suggests a point of possible clinical value in reestablishing normal peristalsis when there is a tendency to reverse peristalsis."

We have sought to confirm these isolated observations by experimentation. Unexpected difficulties and the press of other matters have prevented the carrying on of this work. In the meantime, however, we have applied this simple form of medication to a number of selected clinical cases of vomiting with results that have been surprising to ourselves.

We are making this brief report rather as a record of our own surprise than with any claim to the publication of a new therapeutic measure. It seems incredible that so simple a remedy should not have been hit on earlier, if not by the medical profession, at least by the laity in its household therapeusis. In fact, warm salt solution has been, probably for generations, a favorite "home remedy" to induce vomiting. Whatever past experience has produced, we desire simply to record here briefly a series of patients.

All these patients were suffering from symptoms of reverse peristalsis in the upper gastro-intestinal tract from various causes. All were given amounts of 2 per cent. sodium chlorid solution varying from 50 to 200 c.c. In every case there was immediate relief of symptoms, but in several cases the relief was transient. We are alert for the posthoc fallacy. For that reason, we are making a preliminary report, so that others who perhaps have not tried this method may make and report observations.

If our recorded effects are not illusory, it seems probable that the action is a local one, tending to establish forward peristalsis in the stomach, no matter what the cause of the reversal.

It may be found that the expression of this effect in amelioration of symptoms depends on the intensity of

* From the Departments of Surgery and of Obstetrics, Washington University School of Medicine.

1. Lehman, E. P., and Gibson, H. V.: Observations in a Case of Jejunal Fistula, J. A. M. A. **82**: 1918-1920 (June 14) 1924.

the abnormal stimuli to reversal of peristalsis. Certainly in Case 2, although the cause remained and resulted in reestablishment of nausea and vomiting, yet there was transient relief of symptoms. It is not hard to conceive of stimuli to reversal, such, for instance, as might be set up in general purulent peritonitis, so strong that not even this transient effect could be observed. However, the treatment is so harmless in itself that even in such cases it may be worth a trial. We know of only one type of case in which it is contraindicated; namely, in conditions in which salt may be a poison. Nephritis with edema, signifying chlorid retention, is the important member of this group. An overdose must be avoided in any case, on account of the danger of a salt diarrhea. Case 8, in a physician, illustrated this danger. On account of the popular use of warm saline solution as an emetic, we have given it always at a temperature that feels cool to the patient's mouth.

In this connection the work of Hughson and Scarff [2] is of interest. They observed active peristalsis in the cat on the intravenous injection of 30 per cent. sodium chlorid solution. Two favorable clinical experiences are briefly mentioned.

All our patients received from 50 to 200 c.c. of 2 per cent. sodium chlorid solution by mouth, given cool. In most of those cases treated in the hospital, the salt given was the chemically pure product used for subcutaneous and intravenous administration. Other patients received ordinary table salt.

REPORT OF CASES

CASE 1.—A woman, aged 50, received multiple fractures in an automobile accident. There were no cranial or abdominal injuries. She was in a dangerous degree of shock for twenty-four hours. She vomited for two days before the salt solution was given. Afterward there was no further vomiting, and she was able to retain water and food.

CASE 2.—A graduate nurse, aged 24, had an appendectomy for subacute appendicitis, combined with a thorough exploration of the abdomen. For the first five days following the operation, the pulse and temperature gradually fell; the abdomen was flat, soft and not tender. There was no dilatation of the stomach. During this period, however, she vomited all of every night. In the daytime she retained water and other liquids, with only occasional nausea and rare vomiting of small amounts. The hidden cause for this complication was probably absorption from a large hematoma between the superficial and deep fascia, not infected. When the sutures were removed on the fifth day, the hematoma declared itself by discharging through the wound, and convalescence was quickly established. During the last forty-eight hours of nausea and vomiting, the patient was several times given 50 c.c. of 2 per cent. sodium chlorid solution at the onset of nausea, and was asked to observe her sensations closely. On each occasion, she stated that the nausea immediately disappeared and remained absent for an hour or two. It was not deemed advisable to push the treatment too continuously, on account of the danger of diarrhea. The subjective effect was to her very striking.

CASE 3.—A man, aged 32, underwent cholecystectomy under ether anesthesia. There was moderate postoperative vomiting, which subsided in about six hours. Eighteen hours later the patient vomited a large amount, and there followed continued nausea and repeated vomiting of smaller amounts. Early dilatation of the stomach was suspected, although examination of the abdomen did not positively confirm the possibility. A stomach tube was passed and thorough lavage was done. One hundred cubic centimeters of 2 per cent. saline solution was then left in the stomach. No further vomiting occurred. The combination of lavage and saline solution leaves little part in the result to be ascribed to the latter. The case is recorded as offering a suggestion for a variant in the use of the measure.

2. Hughson, W., and Scarff, J. E.: The Influence of Intravenous Sodium Chloride on Intestinal Absorption and Peristalsis, Bull. Johns Hopkins Hosp. **35**: 197 (July) 1924.

CASE 4.—A man, aged 50, a traveling salesman, under strain of hard work, suffered from severe globus hystericus beginning after the first few bites at each meal. A teaspoonful of salt in a glass of cold water, taken at the onset of symptoms, invariably gave immediate relief, lasting through the meal. The affection would be present at the following meal, and relief was obtained in no other manner.

CASE 5.—A woman, aged 23, had suffered from nausea frequently when riding on a train or closed car. Relief from nausea followed promptly on taking a teaspoonful of salt in a glass of cold water. Water alone had no effect.

CASE 6.—A primipara, aged 24, seen in private practice early in pregnancy, suffered frequently from nausea when exhausted. Following a teaspoonful of salt in a glass of cold water, nausea disappeared for a period of time long enough to enable her to retain food. More permanent relief followed the ingestion of food.

CASE 7.—A primipara, aged 23, seen in the dispensary, suffered from symptoms identical with those in Case 8. Relief followed in the same way.

CASE 8.—A young physician, suffering from duodenal ulcer, experienced frequent nausea and pain after meals. These symptoms were relieved after taking a teaspoonful of salt in a glass of cold water. The symptoms would recur with the next meal, and treatment was apparently efficacious as often as it was used. It was temporarily abandoned after an overdose of salt had induced a marked diarrhea. The overdose consisted in taking two glasses instead of one.

CASE 9.—A young man, aged 25, a moderate drinker, suffered excessive nausea and vomiting following an alcoholic debauch. Symptoms were at once alleviated, and food hunger was appeased, after a glass of cold salt water.

CASE 10 (from the practice of Dr. S. B. Grant).—A woman, aged 50, suffering from chronic myocarditis and cardiac decompensation, was partially digitalized. After receiving two thirds of the estimated physiologic dose, she vomited several times in the course of an hour. A small amount of 2 per cent. sodium chlorid solution was given. At the same time, administration of digitalis was discontinued. Vomiting ceased immediately and did not recur.

CASE 11.—A woman, aged 29, was given nitrous oxid-oxygen anesthesia for the reduction of a severe Pott's fracture with dislocation of the foot backward. The anesthetic was badly taken, with vomiting, followed by asphyxia from a spasm of the glottis. On return of consciousness, she was immediately relieved of residual nausea after taking 100 c.c. of 2 per cent. sodium chlorid solution. About an hour later, while being carried from an automobile to her bed, she vomited once.

CASE 12.—A physician, aged 30, was subject to occasional attacks of morning nausea and vomiting, especially when under physical or emotional strain. No organic cause for these attacks has been found. On one such occasion, he took 100 c.c. of 2 per cent. sodium chlorid at the onset of nausea. There was immediate subjective relief. One half hour later nausea recurred, and vomitus of a salty taste was expelled.

CASE 13.—A woman, aged 71, was continuously nauseated for three hours following alcohol injection of the third division of the trigeminal nerve for neuralgia. She was given 100 c.c. of 2 per cent. sodium chlorid solution. Immediately afterward she vomited about 15 c.c. Her nausea then ceased and did not recur.

CASE 14.—A young, unmarried woman suffered for some months from attacks of nausea and vomiting with abdominal pain, following indiscretions in diet. A presumptive diagnosis of cholecystitis had been made. On one occasion, she took 100 c.c. of 2 per cent salt solution during an attack of nausea. Immediate relief followed. She noticed particularly the prompt cessation of a sense of constriction in the esophagus.

CASE 15 (from the practice of Dr. L. H. Hempelmann).—A woman, aged 55, started vomiting eleven days after an exploratory laparotomy in which a generalized carcinoma of the peritoneum, originating in the pelvis, was revealed. The vomiting ceased on several occasions following the administration of 2 per cent. sodium chlorid solution, both with and without preliminary gastric lavage.

Since the original manuscript of this report was completed, we have added to our experience several other confirmatory cases. In addition, numerous col-

leagues have reported to us apparently successful trials in their practice and among their families. We must add that there have been two instances in which the administration of 2 per cent. sodium chlorid solution was followed by no change in the symptoms. In at least one of these, the amount given was probably less than 20 c.c.

CONCLUSIONS

1. Sodium chlorid solution, 2 per cent., was observed in an earlier study to set up active forward peristalsis in a patient suffering from a complete high intestinal fistula.

2. Clinical cases of reversal of peristalsis, mostly nausea and vomiting, in all of whom symptoms were improved following the administration of 2 per cent. sodium chlorid solution, suggest that this observation may be of value in nausea and vomiting from many causes.

3. The treatment is so simple and harmless that it deserves a trial by clinicians everywhere, with a view to confirming or disproving the present observations.

THE CONTROL OF INTRACRANIAL PRESSURE

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Because of the many inquiries regarding the method of administration of magnesium sulphate that I [1] have employed in cases of increased intracranial pressure, an outline of treatment, based on four years of experience and observation at the University Hospital, is offered in the management of such cases.

1. Magnesium sulphate, if properly administered, will definitely reduce intracranial pressure within a few hours.

2. Reduction of pressure may be maintained by its repeated use over a period of weeks.

3. Acute pressure phases seen in traumatic head injuries can be adequately combated so that decompression for pressure has been found unnecessary in this hospital for the last three years.

4. Magnesium sulphate is given as a routine in all intracranial injuries, with the exceptions noted below.

5. Results have shown that the reduction of brain volume is greater and more satisfactory than the limited possibility offered by subtemporal decompression for pressure, and obviates the necessity of further shock from operation or a resultant cranial defect, should the patient survive.

6. The effect of magnesium sulphate by mouth or rectum is simply a mechanical means of dehydration of the entire system, including the ventricular fluid, and is an offset to brain edema. It is necessary, therefore, to restrict carefully the patient's fluid intake during the period of dehydration. Liquids in any form must be withheld; a soft diet may be resorted to and water given only as the pulse may indicate. Grapefruit has been found of value in relieving the patient's thirst. No milk, broths, soups or liquid foods should be given during this period, if dehydration of the ventricular system is to be accomplished.

7. In cases in which no myocardial involvement exists, the pulse rate may be considered a fair index of the blood volume available for circulation.

8. Magnesium sulphate should never be given in the presence of shock [2] (i. e., low temperature and rapid or rising pulse), for to deplete a vascular system already impoverished will be disastrous.

9. In a certain recognized group of cases in which intracranial injury has been severe, relief in any form is of no avail. Especially is this true in the group showing profound shock (low temperature and rapid pulse, with low blood pressure) associated with intracranial pressure (low or irregular respiration, or a terminal high respiratory rate). A certain percentage of these cases may be successfully treated by the immediate introduction of fluids in small amounts intravenously for shock, with direct relief of intracranial pressure by repeated ventricular tap from the posterior horn of the lateral ventricle. After the acute phase of the shock has subsided, dehydration by means of magnesium sulphate may be resorted to for control of intracranial pressure, but the dose must be regulated in accordance with the pulse rate; rates above 130 indicate the need of fluid and not dehydration.

10. In general, the respiratory rate if below normal (20) or irregular may be considered as an index of the presence of intracranial pressure and indicates dehydration. Definite manometric readings should be made.

Rapid respiratory rates, at times due to direct irritation of the respiratory center, are as yet not definitely understood as to interpretation. Rebreathing or carbon dioxid with adequate oxygen has been found of value in certain cases in reducing the respiratory rate. Rapid respiratory rates are frequently seen in the terminal stage of intracranial injury.

Prolonged hyperpnea should be actively combated, as profound changes may be produced, a vicious respiratory circle may arise, and a terminal alkalosis and tetany may be induced.[3]

11. The temperature is of value in the early stages of observation to determine the period of shock. Shock is the prime consideration in this phase, and attention must be directed to its relief by bringing the temperature up to normal and the pulse rate down.

Active measures to combat temperatures over 105 F. should be undertaken by means of sponges, baths or ice. Animal experimentation has shown that the lethal temperature of the brain tissue is about 108 F.

12. Records of the pulse, temperature and respirations should be kept every fifteen minutes during the acute phase, along with blood pressure readings at half hour intervals.

13. In the treatment of the less acute and chronic cases of intracranial pressure, there must be limitation of fluid intake to the minimum and frequent administration of magnesium sulphate, usually once or twice daily, in sufficient doses to produce the desired result.

14. It has been said that "the dose of a drug is just enough," and this is particularly true of magnesium sulphate. The average dose consists of 1½ ounces (42 gm.) of crystals in 5 ounces (150 c.c.) of water by

1. Fay, Temple: Administration of Hypertonic Salt Solutions for Relief of Intracranial Pressure, J. A. M. A. **80**: 1445 (May 19) 1923; Comparative Values of Magnesium Sulphate and Sodium Chlorid for Relief of Intracranial Pressure, ibid. **82**: 766 (March 8) 1924.

2. Shock is here intended to cover only the clinical picture seen in acute loss of blood volume from hemorrhage, or that type seen in so-called surgical shock similar to histamin shock brought out by the British Shock Commission during the war, characterized by a transudation of blood plasma into the tissues, with consequent loss of blood volume available for circulatory purposes, and associated with a rise in pulse rate and in the respirations. It must be combated by heat, fluids and stimulation.

3. Rosett, Joshua: Brain **47**: 293 (Aug.) 1924; New Methods of Diagnosis in Certain Diseases of the Spinal Cord, J. A. M. A. **84**: 423 (Feb. 7) 1925.

mouth, repeated, if necessary, at the fourth hour; or in cases of vomiting or stupor, or in children, rectal administration, 3 ounces (90 gm.) of crystals in 6 ounces (180 c.c.) of warm water, inserted by means of a soft rubber catheter and given slowly to avoid the effect of an enema. A dose expelled within half an hour should not be considered as having been given. The dose should be repeated at the second hour, if necessary, adequately to reduce intracranial pressure.

15. No toxic effects have been observed in a large number of cases. There is the possibility of overdehydration, and due regard must be had for the pulse rate as an index of fluid volume of the blood. Fluid intake should be increased in small amounts to offset a rising pulse in overdehydration.

The foregoing is an outline of the factors that require consideration in the treatment of intracranial pressure, as regards the use of magnesium sulphate, and the indications which, in my opinion, should be carefully weighed, with due regard to the many complications and extenuating circumstances. The method should be used only in conjunction with all other aids for pressure and symptomatic relief, such as stimulation, elevation of the foot of the bed, and repeated spinal puncture. It has been found to be an adequate substitute for decompressions that were undertaken for the sole purpose of temporary relief of pressure.

1924 Pine Street.

SPONTANEOUS RECURRENT ABORTION

AN INQUIRY INTO THE CAUSES AND PREVENTIVE TREATMENT *

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It is estimated that fully 20 per cent. of all pregnancies end in spontaneous abortion. This economic loss is accompanied by considerable physical suffering, and brings in its wake much mental distress. Furthermore, spontaneous abortion frequently strikes the homes of those who greatly desire children and are well able to provide them with unusual advantages. All these factors serve to emphasize the need of more work in this field.

Introductory to a consideration of the causes of "spontaneous" interruption of gestation, it would appear helpful to estimate the relative etiologic importance of physiologic disturbances as contrasted with pathologic processes. Many spontaneous abortions occur in women who fail to give evidence of pelvic lesions; but, despite this, I have long inclined to the belief that careful study should reveal pathologic conditions to be the more important etiologic factor. This belief is strengthened by the observations of Mall,[1] who reported 50 per cent. of pathologic ova among all specimens collected by him during a period of ten years.

My interest in these cases centers, at present, in one especially important problem—the etiologic relationship between infection and spontaneous abortion. The possible influence of infection on the intra-uterine death of the child has already been suggested, notably by De Lee [2] and by Curtis.[3] For some time I have suspected that infection is also an important cause of fetal death during the earlier months of pregnancy. The present report, concerned with this phase of the subject, is made possible by certain cases, which have been particularly adapted to investigation because of recurrent, or so-called "habitual," abortion.

CLINICAL OBSERVATIONS AND LABORATORY EXPERIMENTS

CASE 1.—A patient, whose previous management had been in the hands of skilled obstetricians, gave a history of a normal labor with the birth of a sickly babe, which died within a few hours. A subsequent pregnancy terminated in the birth of a still-born child. It appears that no especial study was made of these two children or of the placentas; examination of the mother had failed to throw light on the etiology of her trouble.

I made an examination of this patient, in search for possible foci of infection, without discovery of gross evidence of abnormality. Cultivation of the catheterized urine, however, invariably yielded hundreds of colonies of hemolytic streptococci, despite complete absence of urinary tract symptoms.

Pregnant rabbits, injected intravenously with fresh twenty-four hour washed ascites-broth cultures of these streptococci, revealed, on abdominal palpation, gradual decrease in size of their fetuses. The uteri of the injected animals, killed a few days subsequent to treatment, contained, in all cases, embryos in various stages of absorption. Hemolytic streptococci were recovered from the uterin cavities and from the embryos.

On further questioning, the patient gave a history of recurrent mouth infection, but no oral foci were demonstrable. It was then learned that the husband suffered from mild diabetes and had apical infection of several teeth; after the treatment of his teeth, the patient experienced no further trouble with the gums or throat. The kidney infection, under the usual management, gradually disappeared. The patient was then allowed to become pregnant, and has since given birth to three healthy children.

CASE 2.—A woman, aged 27, gave a history of spontaneous abortion once a year for three years. These three pregnancies had terminated at six, six and eight weeks, respectively. There was further history of chronic infection of the accessory sinuses, notably the right frontal sinus and the right antrum. At infrequent intervals, there were acute exacerbations, with right frontal headache, afternoon fever and leukocytosis. Two or three days after the most pronounced attacks there was usually discomfort in the region of the right kidney, with some associated urinary frequency and burning on micturition. At such times the urine, ordinarily normal, revealed traces of albumin, occasional hyaline casts, scattered leukocytes and a few bacteria. Repeated cultivation of the urine failed to yield evidence of infection with a specific organism.

Roentgen-ray examinations, in addition to the foregoing, warranted a diagnosis of chronic sinus infection, from which source intermittent bacteremia apparently caused recurrent kidney disturbance. Treatment directed toward relief of these lesions resulted in the disappearance of systemic and focal symptoms. The patient then became pregnant, and in November, 1924, gave birth to a healthy girl.[4]

CASE 3.—A patient, aged 34, in excellent general health, had been pregnant ten times, and every time had lost the baby between the fourth and sixth months of gestation. When we first saw her, in April, 1923, she complained of slight bleeding and moderate leukorrheal discharge. The cervix was enlarged, eroded and infected. Although no streptococci were obtained from the cervix, it was suspected that infection, ascending from this region, was responsible for the abortions.

After restoration of the cervix to the normal condition, the patient again became pregnant. Much to our disappointment, she again miscarried, this time also at the fourth month. The products of conception were not available for bacteriologic study.

On recovery from this eleventh abortion, the patient was studied for other evidences of focal infection. Despite freedom

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* From the gynecologic service and pathologic laboratory, St. Luke's Hospital.

* Read before the Indianapolis Medical Society, April 7, 1925, and the Chicago Gynecological Society, April 17, 1925.

1. Keibel and Mall: Human Embryology, Chapter on the Pathology of the Human Ovum **1**: 202, 1910.

2. De Lee, J. B.: A Bacteriologic Study of the Causes of Some Stillbirths, J. A. M. A. **67**: 344 (July 29) 1916.

3. Curtis, A. H.: Streptococcus Infection as a Cause of Spontaneous Abortion, J. A. M. A. **67**: 1739 (Dec. 9) 1916.

4. It is worthy of note that the placenta contained several white infarcts. Talbot, J. E.: The Placental Infaret and Its Relation to the Etiology of Deformed Babies, Am. J. Obst. & Gynec. **8**: 271 (Sept.) 1924.

from symptoms and the presence of only occasional leukocytes, the catheterized urine contained numerous diplococci, and cultures revealed hundreds of colonies of hemolytic streptococci. A bacteriologic study of the mouth showed occasional streptococci and other bacteria more numerous than usual; improved oral hygiene was greatly needed. The husband's teeth also revealed pockets of infection; smears contained much pus and a rich bacterial flora.

TABLE 1.—*Intravenous Injection of Pregnant Rabbits with Broth Cultures of Hemolytic Streptococci Obtained from Barren Patient 3, with History of Eleven Spontaneous Abortions*

Animal	Duration of Pregnancy	Dosage, C.c.	Course	Results
1	2½ weeks	1.5	Gradual softening of fetuses	Abortion
2	2 weeks	2	Gradual shrinkage of fetuses; killed after 2 weeks	Remnants of absorbing fetuses
3	2 weeks	3	Gradual shrinkage of fetuses; killed after 3 weeks	Complete absorption of fetuses
4	10 days	3.5	Sick first day; prompt recovery; killed eighth day	Half dozen nodular remnants of pregnancy
5	2 weeks	4	Healthy; gradual shrinkage of fetuses; killed eighth day	Five fetal nodules; absorption nearly complete
6	10 days	4	Death after two days	Early necrosis of fetuses
7	2 weeks	5	Death after three days	Beginning necrosis of fetuses

Dental care of the patient and of her husband, together with treatment of the patient's urinary tract, have finally been followed by disappearance of bacteriuria. A twelfth pregnancy is now in progress. It is already advanced into the sixth month, and the outcome will be awaited with much interest.

Irrespective of the termination of this human experiment, the results of animal study are instructive

Each pregnant rabbit of this group was injected intravenously with a fresh twenty-four hour washed ascites-broth culture from the patient's urine. In all instances there was abortion or absorption of the fetuses. Two animals received bacteria in amounts sufficient to cause death, and one was prostrated for a day. Four were not sick enough to reveal symptoms; previous experience indicates, however, that a single intravenous injection will not suffice to interrupt pregnancy unless given in an amount comparable with that required to produce notable systemic disturbance in a human subject.

TABLE 2.—*Intravenous Injection of Pregnant Rabbits with Various Strains of Virulent Colon Bacilli; to Note the Influence of Nonspecific Infections on the Course of Pregnancy*

Animal	Duration of Pregnancy	Dosage, C.c.	Results
1	3½ weeks	2	Birth of six healthy young
2	2½ weeks	5	Killed after one week; seven healthy young, near term
3	2 weeks	3	Definite progressive increase in size of fetuses
		5 eight days later	Sick; shrinkage of abdomen; uterus contained ten absorbing fetuses
4	2 weeks	6	Seriously sick; slow recovery; absorption (abortion?) of fetuses
5	2 weeks	6	Sepsis; death after two days
6	2½ weeks	12	Death after eighteen hours from acute sepsis

CONTROL EXPERIMENT

A series of six pregnant rabbits (Table 2) was injected intravenously with other virulent bacteria for the purpose of obtaining an indication as to whether the power of inducing abortion is a specific property, limited to hemolytic streptococci. Pregnant patients withstand various nonstreptococcic acute infections quite satisfactorily. From analogy, one would anticipate that pregnant rabbits might endure similar moderate invasion of the blood stream without death of their embryos.

Study of the table reveals that, in contrast with the streptococcus series, pregnancy advanced uninterrupted in those rabbits which receive a single injection, provided the amount administered was distinctly less than that required to endanger life. In one case a subsequent larger intravenous injection produced considerable reaction and brought about gradual absorption of the fetuses. It is to be regretted that the available supply of pregnant animals has been too limited to furnish more than a meager amount of information. The evidence merely suggests that intravenous injection of moderate amounts of virulent colon bacilli tends not to interrupt the normal course of pregnancy. Injection of large quantities, however, sometimes results in absorption or abortion of the fetuses.

COMMENT

The three patients who have been studied in this work introduce two common factors of interest: First, all had lesions that offered easy portals of entry for fresh infection, and, secondly, all suffered from kidney disturbance. It appears that all three experienced frequent renewal of infection, suggesting that the occurrence of spontaneous abortion tends to be dependent on fresh exacerbations, rather than on dissemination from low-grade chronic foci.

Remnants of absorbing fetuses in the uterus of a pregnant rabbit killed two weeks after intravenous injection with hemolytic streptococci, obtained from a barren patient with a history of eleven spontaneous abortions.

The importance of acute exacerbations of infection is emphasized by observations made during the postwar influenza-like streptococcus epidemic, at which time I was impressed with the frequency of spontaneous abortions. These occurred in some patients who were only moderately ill, indicating that even rather mild fresh streptococcus infection endangers the life of the unborn child. As this is being written, there is another serious epidemic of respiratory tract infections. In a practice concerned very little with obstetrics, I now have in the hospital two of these patients, neither seriously ill, but both confronted with almost certain spontaneous emptying of the uterus. Inquiry reveals that other physicians are having a similar experience.

To the small group of chronically infected patients here presented may perhaps be added a more recent patient who, a short time ago, had a spontaneous abortion at the fifth month. Roentgenograms revealed apical infection of two devitalized teeth. There are no urinary tract symptoms, but repeated cultures, taken at various times, have all yielded numerous colonies of a pleomorphic anaerobic streptococcus.[5]

Another patient, aged 35, has one healthy child 12 years old. Subsequent to that birth, which was normal,

5. It seems scarcely necessary to state that such easily demonstrable evidence of infection is an exception to the general rule.

there were five abortions at three months, four months, five months, six months and six months, respectively. This patient, the wife of a druggist and sister of a physician, has received attentive hygienic care. Her general health is excellent. There are no symptoms. The pelvic organs are normal. Further pregnancy has been avoided since 1921, because every one of several consultants has made a diagnosis of irremediable idiopathic tendency to habitual abortion. On examination we discovered a focus of infection; the teeth, although apparently in good condition, contained many fillings, and roentgen-ray study revealed unusually extensive apical infections. These were so widespread as to necessitate extraction of three teeth and drainage of several others. A bacteriologic study of the material obtained is now in progress. A set of urine cultures has remained sterile.

SUMMARY

Spontaneous abortion is relatively frequent in patients who are free from syphilis and have no gross abnormalities of the pelvic organs.

Three barren patients with a pronounced history of habitual abortion all revealed active foci of infection with associated kidney involvement. Two have borne healthy children since being relieved of their infections; the third, with a history of eleven abortions, is now well and is nearly six months pregnant.

Intravenous injection of numerous pregnant rabbits with fresh cultures of hemolytic streptococci, obtained from these patients, has invariably resulted in prompt termination of pregnancy. Control experiments suggest that other virulent bacteria do not possess such a high degree of specificity.

CONCLUSION

Focal infections with a tendency to fresh exacerbations appear to be an important cause of otherwise inexplicable spontaneous abortion in women. Repeated inoculation of susceptible patients with bacteria from the oral cavities of human carriers of infection may also be a factor. Low-grade chronic foci are probably a less serious menace to the growing fetus.

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Tumor of the Cerebrum.—From time immemoral it has been customary to describe three phenomena—headache, vomiting and optic neuritis—as the classical symptoms of cerebral tumor. Undoubtedly these phenomena will appear in the majority of cases if we wait long enough, but they are no more the primary symptoms of cerebral tumor than is acute intestinal obstruction the primary symptom of carcinoma of the colon. They are the symptoms of increased intracranial pressure due, not to the size of the tumor itself, but to a very definite series of events of which the tumor is the cause. The key to these events is to be found in the circulation of the cerebrospinal fluid. We now have convincing experimental evidence that the cerebrospinal fluid is secreted by the choroid plexuses into the ventricular system of the brain. Most of it is produced in the lateral ventricles, from which it pours through the third ventricle, through the narrow aqueduct of Sylvius into the fourth ventricle, and out by the foramina of Luschka and Magendie into the subarachnoid space. It is absorbed into the venous sinuses, apparently by way of the pacchionian bodies. Anything which obstructs this flow gives rise at once to an internal hydrocephalus and to a high degree of intracranial tension. . . . The classical symptoms of cerebral tumor are, therefore, those of the late stage, really indicating cerebral obstruction, and it ought to be our aim to diagnose and treat the case before they arise.—Souttar, H. S.: Tumors of the Cerebrum, *Brit. M. J.* **1**:541, March 21, 1925.

MORPHIN

ITS USE BEFORE AND AFTER OPERATIONS

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My object in this paper is to call the attention of the surgical profession to the great diversity of opinion that exists regarding the use of morphin before and, especially, after operation. It would seem that our knowledge of the pharmacology of morphin, which has been used for several hundred years, would lead to absolute unanimity on the subject; but such is not the case. The opinion of one surgeon as to the use of the drug after operation may be diametrically opposite to that of another, and yet their surgical end-results may be equally good. To condemn morphin because of its supposedly deleterious effect on the kidneys or other organs seems unjust, when there is an equal weight of opinion to the contrary.

These different views regarding the pharmacology of morphin are held by teachers in our leading medical schools and must be confusing to the medical student, who, later on, is called on to put into actual practice what he has learned. A student may be taught that the drug causes vomiting. As an intern, he may be taught that the opposite is true. And so it goes down the long chain of either indictments against or advocacies for morphin.

In order to obtain opinions from some of the best surgical minds in this country, a questionnaire was sent to 100 leading surgeons. The answers served to corroborate the view held that great confusion of opinion does exist regarding the use of morphin before and after operation. In particular was this true when using the drug postoperatively.

PHARMACOLOGY

A brief review of the pharmacology of morphin, before a discussion of the results obtained from the questionnaire are given, seems necessary.

Hare [1] states that morphin quiets the brain and excites the spinal cord. He believes that small doses have no effect on the circulation but that large ones slow the pulse, increase its force and raise the blood pressure slightly. (If so, this is a valuable point in its favor.) In moderate dosage, the respiratory function is not depressed. This authority claims that tissue waste is prevented by the use of opium and its derivative morphin. The drug is oxidized in the liver and tissues, and, unless given in excess, it does not cause kidney dysfunction. This is contrary to the belief held by many surgeons. Hare is of the opinion that morphin given in repeated doses for several days often incites obstinate vomiting.

Cushny [2] is authority for the statement that morphin acts chiefly on the central nervous system. He further states that small doses lessen voluntary movements and produce drowsiness, which soon passes into deep sleep, unless the patient is continually aroused by his surroundings. As long as such a patient is kept awake, his actions and movements show nothing abnormal, except that it is impossible to keep his attention directed to any object for long. Self-control and judg-

1. Hare, H. A.: A Textbook of Practical Therapeutics, Philadelphia, Lea & Febiger.
2. Cushny, A. R.: A Textbook of Pharmacology and Therapeutics, Philadelphia, Lea & Febiger.

ment are lessened, and there is no conception of time. If the drug is given in larger doses, deep, dreamless sleep is produced, from which it is easy to arouse the patient. Sleep is at once resumed when the disturbing factor is removed. If the dose should be further increased, symptoms of poisoning, such as torpor or coma, will develop. After small doses of morphin, the patient will awaken refreshed. The throat may be dry, possibly nausea may be experienced, and at times headaches are present. In some persons, vomiting and depression are noted. Rarely delirium or convulsions occur. The skin may be reddened and itchy. The latter manifestations really constitute an idiosyncrasy.

Cushny goes on to outline the action of morphin in small doses. There seems to be a mixture of stimulation and depression. The depression is produced on the brain, especially in those patients associated with higher intellectual faculties. The stimulation affects first the spinal cord. As the action on the brain is elicited by smaller doses than on the cord, so the first effect of morphin is general intellectual depression, while increased spinal function is elicited by very much larger amounts. In man, comparatively small amounts are usually found sufficient to deaden the pain of disease without rendering the patient unconscious. Morphin has little direct action on the circulation. The drug is entirely eliminated by the intestinal tract and not by the kidneys, as is so generally thought.

THE QUESTIONNAIRE

The questionnaire sent out included the following statements or questions:

QUESTION 1.—Do you use morphin as a routine before operation? If so, what is the average dose?

To this question, seventy-three made reply. Of this number, fifty-nine replied in the affirmative and fourteen in the negative. It can be seen, then, that 80 per cent. of a group of representative surgeons scattered over the United States favor giving morphin before operation. These figures do not include children. The use of the drug in such cases will be considered later. Several men objected to the use of the word "routine," but stated that they used morphin before operation in the majority of cases. A few limit its use to those operations in which nitrous oxid is used.

As regards the average dose used, the amounts varied between the narrow limits of from one-sixth to one-fourth grain (0.01 to 0.016 gm.).

QUESTION 2.—Do you use morphin preoperatively in children?

The answer to this question brought out a preponderance of opinion against the use of the drug. Fifty surgeons definitely stated "No." Fourteen men always used morphin before operation in children, the average dose being from one-twelfth to one-eighth grain (0.005 to 0.008 gm.). Eleven based the dose on one of the usual rules for calculating dosage in children. From personal observations there seems to be a gradually increasing tendency on the part of the profession to use opium and its derivatives in children in larger doses than formerly was the custom. Moreover, the old teaching that morphin is highly dangerous in the young have been definitely disproved by actual practice, in the experience of many surgeons of sound judgment. It should be understood that these remarks do not apply to very young infants, as it is generally accepted that when this class of patients need anesthesia no preliminary medication is advisable. However, after the age of 3 or 4 is passed, morphin in small doses is well tolerated.

QUESTION 3.—Do you use morphin as a routine after operation? If so, in what dose, at what intervals and for how long?

The answers to this question provoked the greatest amount of comment. Eighty-three men answered the question. Forty-six were emphatic in their stand that morphin should always be given after an anesthetic. Twenty-two stated that they did not use the drug, some giving their reasons. The drug was used only occasionally in their practice. There were twelve surgeons who objected to the use of the word "routine," but inferred that they were decidedly partial to the postoperative use of morphin. This group of twelve, if added to the forty-six who left no doubt regarding their preference, brings up the total to fifty-eight out of eighty-three who favor morphin postoperatively, or almost 70 per cent. Thus we see that there is almost, if not quite, unanimity of opinion in answering this question.

Some of the remarks made under this caption are of sufficient interest to merit repetition. One man felt that morphin makes all postoperative patients worse, thus increasing their pain. Another states that the drug lowers the morale markedly, and he therefore uses it only for pain. Still another remarks that the drug excites the patient. He did not state whether this holds true in all cases. One cannot help feeling that there is a strong personal prejudice in this case. One surgeon leaves it to the patient to decide whether morphin is to be used or not. Generally speaking, this course does not recommend itself. Another cautions always to avoid morphin in abdominal cases. By way of digression, it should be said that it is in abdominal and head cases that we are most concerned as to whether or not morphin should be used. All other cases dwindle into insignificance when compared to these two classes. There is a crying need today for some standard by which the surgical profession can be guided in giving morphin, especially in abdominal cases.

As opposed to those who hold a pessimistic view of the situation, a considerable number of men sounded a note of optimism in their remarks. Morphin was characterized by one man as an absolute life saver against pain. Another considers it the very best circulatory sedative he has known. Others state variously that "it keeps surgical cases very comfortable," "it is the most valuable drug we have," and lastly, one noted surgeon goes so far as to say that he would be tempted to give up surgery if deprived of morphin.

The conclusion to be drawn after a consideration of the answers to Question 3 shows that, while the balance of opinion is in favor of using morphin after operation, there is, as yet, a decided difference in the views held by surgeons on this subject.

On analyzing the second part of Question 3, one is at once struck by the fact that almost no two are agreed on one standard procedure. In fact, it is not possible to strike an average, although it would seem that the total daily amount given averages about the same in all cases. A dose of one-sixth grain (0.01 gm.) every three or four hours for one or two days is the technic followed by the majority.

QUESTION 4.—In your experience, have you ever noted that morphin postoperatively has an unfavorable action on:

(*a*) The kidneys?

(*b*) The respirations?

(*c*) The stomach? Do you think it increases or decreases the tendency to postoperative nausea or vomiting?
(*d*) The circulation?

The answers to this question will be considered serially.

(*a*) *The Kidneys.*—There were seventy answers to this question. Seven, or 10 per cent., believed that the drug might act unfavorably on the renal system. However, none of the seven gave any details as to just what dysfunction was brought about. Sixty-three simply answered in the negative. Since there is very little contradictory opinion, we can dismiss this part of the question with the comforting thought that morphin has little or no untoward action on the kidneys.

(*b*) *The Respirations.*—Of the seventy answers to this question, there is about the same division of opinion as in the query relating to the kidneys. Six had experienced unfavorable action on the respirations, consisting mostly in lowering the rate of breathing. Sixty-one had never been alarmed by any changes in respirations brought about by repeated small doses of morphin after operation. Three remarked that only rarely did the drug act unfavorably. Here, again, there is a great preponderance of opinion that in relieving pain with morphin one need not be concerned about the respirations. It is pertinent to note that Crile has done more than any one else to restore confidence in the use of morphin. It might be well to recall his dictum that the drug can be given without regard to dosage, until the respirations have been depressed to a certain level.

(*b*) *The Stomach.*—Forty-one revealed the fact that morphin has no effect on the stomach itself. One feared dilatation, so that he considered this condition enough to contraindicate the use of the drug. Twenty-five men believed that repeated small doses predispose to vomiting and nausea, while six strongly defended the drug for its power to decrease or prevent vomiting. There were seventy-three answers to this question, but they do not lend themselves easily to deduction. A number favored the drug despite their feeling that it would increase vomiting. The almost complete absence of remarks regarding distention was surprising, and due possibly to the fact that the questionnaire did not especially bring up this condition. It is interesting to note here that opinion was more equally divided than in any of the preceding questions, although the balance remains in favor of those who use the drug and observe no unpleasant effect on the upper digestive tract. A careful analysis of the answers to this question indicates that the very considerable diversity of opinion must be due largely to lack of observation. Otherwise, in large groups of cases, the effects of morphin on the stomach must be closely alike.

(*d*) *The Circulation.*—To this question there were sixty-six answers, and it is gratifying to note that the entire number are in accord that morphin has no ill effect on the circulation. A number emphasized the fact that this drug improves it, and this view, it must be conceded, is held generally.

QUESTION 5.—Do you believe that the routine use of morphin postoperatively is a potent enough factor in causing the patient to become a drug addict, to contraindicate its use?"

This question was asked because there are a number of men who fear using the drug for that reason alone. It seems impossible to estimate accurately what portion of morphin habitués owe their addiction to having been given the drug one or two days after an operation. It can be safely said that the number is negligible.

There were seventy answers to this question. Sixty-five answered in the negative; four in the affirmative, and one felt some doubt on the subject. Further comment on this question is unnecessary, if such a large percentage of men do not fear addiction from this course; therefore, there can be no contraindication to its use along these lines.

QUESTION 6.—In your experience are there any other reasons, not mentioned above, that would lead you to think morphin should not be used after operation?

Of the sixty answers to this question, forty-two knew of no additional reasons against the postoperative use of the drug. Eighteen made certain objections, of which a few are pertinent enough for comment on. There were three men who felt that the drug increases gas pains, nausea and vomiting. One of these stated that ileus might be a direct result. A number of surgeons were of the opinion that morphin increased abdominal distention. Another did not use the drug in jaundice cases, fearing anuria. Still another thought that the routine use of the drug might cause a renewal of addiction in those who formerly were habitués. One man excluded the young and old, but gave morphin as a routine to patients of other ages. The possible production of hot water bag burns was the reason why another did not use the drug. As this catastrophe is an unpardonable sin under any conditions, it does not seem to be a valid reason to deprive patients of a drug that allays pain and discomfort. An analysis of these remarks leads to the conclusion that, with the exception of gas pains and tympanitis, the reasons given are personal and not sufficient to condemn the drug.

QUESTION 7.—Have you ever noticed an idiosyncrasy to morphin?

There were sixty-five answers. Eighteen, or nearly one third, had never noted idiosyncrasy. Forty-seven answered in the affirmative. A few men defined the idiosyncrasy, all agreeing that it consisted in producing wakefulness and excitement. On this, therapeutists more or less agree. We cannot condemn the use of a valuable drug on the grounds of idiosyncrasy. From the answers to this question, it is apparent that the condition is frequently observed. However, it is certain that though a surgeon meets with this condition once he will use morphin hundreds of times before seeing it again. Moreover, should idiosyncrasy be encountered, it is not dangerous.

CONCLUSIONS

1. The surgical profession is distinctly not in accord regarding the use of morphin before and after operations.

2. The reasons given, by surgeons in general, for not using morphin differ widely.

3. It is a curious fact that one group of prominent men condemns morphin as definitely producing unfavorable symptoms, while another group advocates its use because it prevents these very symptoms.

4. This questionnaire clearly establishes the fact that a majority of surgeons are in favor of morphin preoperatively and postoperatively in practically all cases.

5. At the present time, there is less fear of using morphin in surgery than there was twenty years ago.

Whether this should be a danger signal or whether it has come about because of advances in knowledge remains to be proved.

6. An attempt should be made to set some sort of standard by which we can be guided in our use of morphin. While it is admitted that it is difficult to standardize the use of drugs in general, it is felt that morphin is of sufficient importance, and in general enough use in surgery, to merit at least a trial toward standardization.

7. There seems to exist a vast field for research, animal and otherwise, in the therapeutics of morphin. It is true that there is a great deal known about the pharmacology of morphin. However, there is little mention in the literature of work done on animals regarding the effects of morphin on the kidneys, circulation, gastro-intestinal tract and respirations.

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ACQUIRED TOLERANCE OF GONOCOCCI IN CULTURE TO MERCUROCHROME-220 SOLUBLE *

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Lately, it has been reported that mercurochrome-220 soluble fails to cure gonorrhea.[1] Assuming that the drug was applied in a manner to obtain most efficient treatment, these failures might be accounted for on the basis that too numerous applications cause a tolerance of the gonoccocus for the drug. In various reports of the treatment of gonorrhea, the main theme has been the alternate use of a dye and a silver preparation, that the most efficient treatment might be effected. Von Lackum and Hager[2] divide acute gonorrhea into arbitrary periods of seven to ten days, and in each of the first two periods use alternately a silver and a dye preparation. They state that in early chronic gonorrhea the patients "have already had too much treatment with protargin mild, and therefore do not respond well to its use. It is probable that here again a tolerance is developed on the part of the organism for the same drug if continually used." Roblee[3] concludes that since there are evidently various strains of the gonococcus and these undoubtedly develop increased resistance to various chemical compounds, two different preparations should be used alternately. Young[4] says that mercurochrome-220 soluble is of great value because of the excellent penetration of the stain and its lasting effect.

It was thought advisable to observe whether or not tolerance of the gonococcus to mercurochrome might be demonstrated in test tube experiments. The method of Schnabel and Kasarnowsky[5] was modified as follows:

Tubes of ascites phosphate broth, containing mercurochrome-220 soluble in the dilution as listed in the tables, were used. To each tube was added a 0.3 c.c. suspension of the organism to be tested in salt solution. Standard samples were removed at stated intervals and plated on ascites phosphate agar for growth determination.

The results summarized in Table 1 are the average of three determinations.

As observed, the average lethal dose of mercurochrome soluble for the strains of gonococcus used was a dilution of 1:20,000 in ascites phosphate broth. Plates of ascites phosphate agar were prepared containing a 1:25,000 dilution of mercurochrome, and the organism was transplanted every forty-eight hours for a period of eleven weeks. They were then planted in varying dilutions of ascites phosphate broth as previously outlined, and the lethal dose determined (Table 2). It is imperative for successful cultivation that the temperature be kept constant at 37 C., that abundant moisture be present in the incubator, and that the agar be freshly prepared, with the surface moist and not too stiff.

As the results show, for the strains used, a tolerance of the gonococcus was readily obtained, after constant exposure to the drug on a medium on which cultivation was maintained. It may be easily understood that cer-

TABLE 1.—*Lethal Dose of Mercurochrome-220 Soluble* *

Dilution of Mercurochrome in Ascites Phosphate Broth	Gonococcus (T)					Gonococcus (F)					Gonococcus (S)					Staphylococcus Aureus				
	3 Hrs.	5 Hrs.	7 Hrs.	24 Hrs.	48 Hrs.	3 Hrs.	5 Hrs.	7 Hrs.	24 Hrs.	48 Hrs.	3 Hrs.	5 Hrs.	7 Hrs.	24 Hrs.	48 Hrs.	3 Hrs.	5 Hrs.	7 Hrs.	24 Hrs.	48 Hrs.
1:10,000	0	0	0	0	0	0	0	0	0	0	0	+	0	0	0	0	0	0	0	0
1:15,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:20,000	+	0	0	0	0	+	+	0	0	0	0	0	0	0	0	+	+	+	+	+
1:40,000	+	0	0	0	0	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
1:80,000	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
1:160,000	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+

* In the tables, + indicates growth; 0, no growth.

TABLE 2.—*Lethal Dose After Growth of Organisms on Medium Plus Mercurochrome-220 Soluble*

Dilution of Mercurochrome in Ascites Phosphate Broth	Gonococcus (T)					Gonococcus (F)					Gonococcus (S)					Staphylococcus Aureus				
	3 Hrs.	5 Hrs.	7 Hrs.	24 Hrs.	48 Hrs.	3 Hrs.	5 Hrs.	7 Hrs.	24 Hrs.	48 Hrs.	3 Hrs.	5 Hrs.	7 Hrs.	24 Hrs.	48 Hrs.	3 Hrs.	5 Hrs.	7 Hrs.	24 Hrs.	48 Hrs.
1:10,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15,000	+	0	0	0	0	+	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:20,000	+	+	0	0	0	+	+	+	0	0	+	+	+	0	0	+	+	+	+	+
1:40,000	+	+	+	0	0	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
1:80,000	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
1:160,000	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+

* From the John McCormick Institute for Infectious Diseases.

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tain chemical combinations between the dye and the medium may form which materially assist or retard the acquired tolerance of the organism. At least, in the test tube, acquired tolerance may be readily demonstrated. Because of characteristics cited,[4] and clinical observations, it seems possible that tolerance may be established by the gonococcus for mercurochrome-220 soluble in the human urethra.

CONCLUSIONS

The lethal dose of mercurochrome-220 soluble for the strains of gonococcus used was found to increase after cultivation of the gonococcus on a medium containing mercurochrome. Consequently, acquired tolerance of the gonococcus for mercurochrome was demonstrated in the test tube.

637 South Wood Street.

Clinical Notes, Suggestions, and New Instruments

CHRONIC LARYNGOTRACHEITIS FOLLOWING ROENTGEN-RAY THERAPY OF NECK

M. L. HARRIS, M.D., BROOKLYN

The roentgen rays are being increasingly employed as a therapeutic agent, particularly for tumors. Untoward results are found to happen occasionally, as the dosage is only approximate, and individual patients will react differently to the same quantity of rays. Therefore, roentgen-ray therapy is not without its dangers, although reports of injuries are scarce. The following case is one of hyperthyroidism, treated with the roentgen rays. The hyperthyroid condition was improved, but the patient died from the destructive effects of the roentgen rays.

REPORT OF CASE

Mrs. G., aged 40, whose menstrual history was normal, had had several healthy children, with normal parturition. The previous history was negative.

Seven years previous to consulting me, she had been treated medically for hyperthyroidism and was improved. Five years previous to consulting me she had a recurrence of symptoms, and about three years previous to consulting me she received her first roentgen-ray treatment. She received in all twelve irradiations during a period of a year and a half. The hyperthyroid symptoms were improved. After the sixth treatment, which was given about seven months after the first, she began to suffer intermittent attacks of hoarseness. On several occasions she was very sick for a few days after treatment, with nausea, vomiting and general weakness. For the past year she had had attacks of dyspnea, with a feeling of suffocation, followed by coughing and expectoration of blood-tinged, viscid mucus and small, hard masses. These masses were cylindric, about the size of the end of a pencil, hard, foul smelling, and composed of blood and mucous—apparently bronchial casts. There was no loss of weight.

Physical examination, Oct. 10, 1923, immediately after an attack of dyspnea, revealed the eyes, normal; no tremor or flushes; the pulse, 80; the heart normal; blood pressure, systolic, 140; diastolic, 90; moderate pulmonary emphysema.

The lower part of the neck and the upper part of the sternum showed marked telangiectasis and slight bulging of the manubrium. No thyroid enlargement was apparent, and the lateral motion of the thyroid was limited. The nose was normal. The throat was markedly congested. Laryngeal examination revealed that the vocal cords moved with phonation and were thickened, lusterless and relaxed.

A roentgenogram of the chest revealed an irregular shadow behind the manubrium, with a slight deviation of the trachea to the left. Bronchoscopic examination revealed an area of granulation tissue, about 3 mm. in diameter, in the left main bronchus, near the bifurication of the foreign body; but it could not be moved. The tracheal mucosa looked dry, and the secretion was thick and scanty. There was no narrowing from outside pressure.

COMMENT

The possible sequelae following roentgen-ray therapy of the neck and referred to frequently are: (1) injury to the skin; (2) myxedema, and (3) fibrosis, with narrowing and fixation of the trachea. To these should be added atrophic laryngotracheitis.

There is little to be done for this condition. However, amelioration is obtained from medicated vapor or inhalation, followed by an oily spray. The patient's attacks under this treatment were much fewer, but the hoarseness and cough persisted. This condition is distressing but not directly fatal.

Jan. 10, 1925, at 3 a. m., she suddenly died, after an attack of dyspnea, from an unknown cause. Acute cardiac dilatation was given as the cause by the ambulance physician.

CASES IN THE LITERATURE

Brehm[1] reports a similar case in a girl, aged 22 years. Strandberg[2] reports the case of a patient treated with the roentgen rays for lymphoma of the front of the neck, who, after two applications with an interval of several months, returned eight months later complaining of hoarseness and pain in the throat. There are probably many other cases not reported, which were milder and in which there was recovery.

1681 Union Street.

PREGNANCY OCCURRING SOON AFTER PREVIOUS LABOR

W. J. LE ROSSIGNOL, M.D., DENVER

A woman had been confined, Feb. 23, 1924, when a girl, said to be premature, was born. She remained in the hospital ten days.

Oct. 14, 1924, another girl was born, whose weight was 4 pounds (1.8 kg.); length, 17½ inches (44 cm.), and occipitofrontal circumference, 12¼ inches (31 cm.). The baby was fed milk from another mother with a dropper, for a few days, then she began to nurse the breast, and was soon able to dispense with the aid of an extra bottle of her mother's milk. At 4 months of age, she weighed 8 pounds (3.6 kg.), and was beginning to make more rapid progress. She was kept in a home-made incubator for two months, with gradual diminution of the temperature. Gavage was not necessary.

The husband acknowledged indulging in marital relations "a week or two" after the return of his wife from the hospital, and pleaded ignorance of the possible bad effects.

686 South Pearl Street.

A SIMPLE TEST FOR THE DIAGNOSIS OF THROMBOSIS OF THE LATERAL SINUS

CHARLES E. DOWMAN, M.D., ATLANTA, GA.

Compression of both jugular veins produces a congestion of the cerebral sinuses and veins, which in turn causes an immediate rise in cerebrospinal fluid pressure. Quickenstedt made a practical application of jugular compression in determining the presence or absence of spinal canal obstruction. This test may be of value also in diagnosing thrombosis of the lateral sinus, and its simplicity adds to its value.

TECHNIC

A lumbar puncture is made and the spinal fluid pressure recorded with either a mercury or a water manometer. The internal jugular vein on the side opposite that of the suspected thrombosis of the lateral sinus is compressed by applying digital pressure anterior to the upper portion of the sternocleidomastoid muscle. If there is an immediate rise in spinal fluid pressure, it is reasonable to conclude that the circulation in the jugular vein or lateral sinus on the opposite side is obstructed. If there is no rise in spinal fluid pressure, a complete occlusion of the suspected sinus cannot be present.

78 Forrest Avenue.

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Special Articles

DIPHTHERIA MORTALITY IN THE LARGE CITIES OF THE UNITED STATES IN 1924

The first annual summary of diphtheria mortality in the cities of the United States with a population of more than 100,000 by the U. S. Census of 1920 appeared in THE JOURNAL last year.[1] The second summary, for 1924, is presented here. Population estimates are the same as those used in the article on typhoid fever.[2] The number of deaths from diphtheria used in calculating death rates has been sent us in each instance by the local health authorities, and we are under obligations for the generally prompt response to our request. Fort Worth, which was unable to furnish diphtheria data in 1923, sends figures for 1924 so that the total roll of sixty-nine cities is complete. The geographic divisions of the U. S. Census Bureau are used as in 1923.

As pointed out in the first summary, it should be kept in mind that diphtheria mortality occurs chiefly in a particular age group. Nearly all the deaths from this disease occur in children under 10 years of age, and the very young children (from 1 to 4 years) are especially severely affected. Any city, therefore, having a large number of children under 10 years of age, and particularly under 5 years, may show a disproportionately high diphtheria death rate on the basis of a total population. There is no doubt that if diphtheria rates were calculated on the basis of deaths under 10 years of age to population under 10 years of age, the relative position of some of the cities in the summary would be altered. Cities with a high proportion of children in the population would occupy a relatively better position than they do in the present alinement. Changes due to this factor, however, would be relatively slight in comparison with the yearly fluctuations caused by variations in epidemic prevalence and other factors. At the present time it is not probable that exact information as to ages at death could be obtained in all cases. There are other statistical complications. The age distribution of the population as determined by the census of 1920 has undoubtedly shifted since then in some localities more than in others, owing to changes in immigration and in birth rates. Estimation of the present age grouping in the population of American cities is therefore somewhat uncertain. For these and other reasons, it is felt that for the purpose of these summaries little would be gained at present by an attempt to tabulate diphtheria death rates by age groups rather than on a total population basis. At the same time it should be recognized that, statistically speaking, mortality grouping by ages is more nearly correct and much more illuminating. Whenever the age grouping of a population can be known and the ages at death correctly recorded, a more adequate basis for statistical comparison becomes available. This is particularly true in such a disease as diphtheria.

TABLE 1.—*Death Rates of Cities in New England States from Diphtheria (Including Croup) per Hundred Thousand Population*

	1924	Average 1920-23	1915-19	1910-14	1905-09	1900-04	1895-99	1890-94
New Haven	1.7	8.5	14.2	14.9	22.7	15.6	54.8	74.5
Cambridge	7.1	9.4	12.9	23.8	25.3	46.7	71.9	58.0
Hartford	7.2	13.0	13.8	25.2	28.1	38.8	47.8	120.9
Lowell	8.6	18.7	23.5	20.6	31.0	59.3	44.3	36.4
New Bedford	9.8	18.3	17.0	20.9	22.6	25.1	53.6	20.0
Providence	14.4	16.2	29.3	26.8	30.7	41.2	53.5	55.3
Fall River	14.9	28.1	23.6	24.0	34.4	50.1	43.8	46.9
Springfield	15.5	15.4	24.9	19.1	31.3	29.6	51.3	68.2
Bridgeport	17.4	20.1	23.4	23.3	26.8	34.2	63.9	79.3
Boston	21.6	19.8	26.3	20.0	26.2	53.7	83.9	112.2
Worcester	23.0	13.6	14.1	21.3	32.2	16.5	50.3	47.8

TABLE 2.—*Death Rates of Cities in Middle Atlantic States from Diphtheria (Including Croup) per Hundred Thousand Population*

	1924	Average 1920-23	1915-19	1910-14	1905-09	1900-04	1895-99	1890-94
Rochester	4.6	20.0	12.7	22.1	32.4	32.3	45.9	96.6
Scranton	5.7	14.0	22.1	23.4	....	....	77.8*	48.6*
Trenton	8.5	7.0	8.8	12.3	15.8	23.6	92.7*	89.7*
Newark	8.7	10.0	14.6	23.3	30.1	46.7	79.1	92.2*
Buffalo	8.8	27.8	27.3	22.0	18.4	24.8	53.3	60.9
Syracuse	9.1	26.4	12.9	16.6	17.4	17.7	31.1	55.4
New York	11.9	14.5	21.8	28.0	40.0	58.0	85.8	134.4
Jersey City	12.1	20.0	21.0	23.2	32.6	57.9	85.4	108.6
Yonkers	12.7	18.1	17.7	25.3	....	....	....	....
Albany	13.2	12.7	10.4	20.0	31.6	26.9	....	....
Reading	13.4	23.0	16.9	35.7	29.2	70.1	72.0	94.1
Philadelphia	14.1	17.3	22.7	24.6	34.1	50.0	100.6	119.4
Pittsburgh	15.5	21.4	22.3	29.3	30.4	36.9	32.9	86.4
Camden	18.2	20.8	23.2	38.8	48.9	52.6	100.3*	194.0*
Paterson	19.9	18.2	13.5	16.1	25.5	52.9	111.8	145.4

* Diphtheria deaths from Chapin's Municipal Sanitation.

TABLE 3.—*Death Rates of Cities in South Atlantic States from Diphtheria (Including Croup) per Hundred Thousand Population*

	1924	Average 1920-23	1915-19	1910-14	1905-09	1900-04	1895-99	1890-94
Norfolk	1.7	5.0	4.1	6.7	....	....	....	....
Richmond	2.2	9.2	5.8	7.0	9.8	24.4	17.6	59.7
Washington	6.9	11.4	11.9	6.9	11.2	23.5	50.9	77.9
Baltimore	7.8	12.3	13.5	14.2	10.1	33.0	68.1	70.0
Atlanta	8.0	14.6	10.1	12.5	14.2	11.1	10.5	8.8
Wilmington	11.7	11.6	15.2	18.0	27.8	50.9	84.9	83.8

TABLE 4.—*Death Rates of Cities in East North Central States from Diphtheria (Including Croup) per Hundred Thousand Population*

	1924	Average 1920-23	1915-19	1910-14	1905-09	1900-04	1895-99	1890-94
Cincinnati	3.9	12.3	13.2	13.9	17.0	17.3	37.3	108.7
Columbus	4.1	9.6	7.6	12.1	10.5	11.6	....	....
Akron	4.3	11.9	18.9	27.8	....	....	....	....
Indianapolis	4.3	13.6	21.4	13.5	13.3	15.9	36.4*	97.3*†
Grand Rapids	5.4	23.2	13.5	20.0	26.6	17.2	32.4	90.2
Chicago	7.4	20.0	31.2	37.9	27.0	33.9	69.7	117.3
Milwaukee	8.1	12.2	19.8	27.8	26.4	22.7	51.7	116.2
Cleveland	8.6	16.2	20.0	24.6	20.8	42.6	45.3	95.7
Dayton	10.1	9.2	9.3	22.1	....	....	38.0*	116.0*
Toledo	10.1	25.5	14.1	25.4	20.4	56.8	34.6	80.3
Youngstown	12.1	20.2	11.9	40.5	33.5	28.0	17.6	....
Detroit	16.3	26.3	32.2	33.3	22.6	38.5	62.9	132.9

* Diphtheria deaths from Chapin's Municipal Sanitation.
† Data for 1891-1894.

TABLE 5.—*Death Rates of Cities in East South Central States from Diphtheria (Including Croup) per Hundred Thousand Population*

	1924	Average 1920-23	1915-19	1910-14	1905-09	1900-04	1895-99	1890-94
Nashville	1.6	9.6	8.9	7.3	10.3	13.9	30.1	28.4
Louisville	1.9	12.5	9.5	9.0	....	....	39.0*	49.6*†
Birmingham	3.5	5.8	7.2	8.3	....	....	....	....
Memphis	9.3	9.6	11.2	11.9	13.4	6.9	10.0	28.5

* Diphtheria deaths from Chapin's Municipal Sanitation.
† Data for 1891-1894.

1. Diphtheria Mortality in the Large Cities of the United States, J. A. M. A. **83**: 918 (Sept. 20) 1924.
2. Typhoid in the Large Cities of the United States in 1924, J. A. M. A. **84**: 813 (March 14) 1925.

Similarly, diphtheria mortality seems to be as a rule considerably higher in the white than in the colored race; indeed, in some localities it may be twice as high. The crude or unadjusted diphtheria death rate tends, therefore, to be higher in a population chiefly white than in one having a considerable proportion of the colored race. For this reason, the cities in the Southern states are likely to have lower diphtheria rates than the Northern cities, other things being equal. It is beyond the present scope of these summaries to attempt to adjust diphtheria rates on the ground of age, sex and racial distribution of the population.

The eleven cities in the New England states (Table 1) make a very favorable showing, eight of the number having a lower rate than the preceding four-year average, and five having rates under 10. Worcester seems to have suffered from a considerable epidemic, and it is of interest to note that the neighboring cities of Boston and Springfield are the only other cities in this group to show an increase in their diphtheria rate. New Haven has the distinction of registering the lowest diphtheria rate of any Northern city, and is excelled among American cities only by Nashville, which has a large Negro population. Considering the white race alone, New Haven doubtless had the lowest 1924 rate in the country.

TABLE 6.—*Death Rates of Cities in West North Central States from Diphtheria (Including Croup) per Hundred Thousand Population*

	1924	Average 1920-23	1915-19	1910-14	1905-09	1900-04	1895-99	1890-94
Kansas City, Mo..	4.1	17.0	22.8	15.7*	....	....	....	....
Kansas City, Kan.	5.4	10.9	23.1	12.4*	....	....	....	....
St. Louis.....	9.7	17.7	24.4	23.7	19.4	43.3	62.9	67.7
Des Moines.....	11.7	16.0	16.6	15.1	....	....	....	....
St. Paul.....	14.3	18.3	20.7	31.4	31.1	27.9	43.3	75.4
Omaha.....	10.3	26.1	35.8	15.8	24.5	20.5	28.2	82.9
Minneapolis.....	16.8	12.6	19.9	28.3	24.4	44.6	34.0	55.0

* Data for 1912-1914.

TABLE 7.—*Death Rates of Cities in West South Central States from Diphtheria (Including Croup) per Hundred Thousand Population*

	1924	Average 1920-23	1915-19	1910-14	1905-09	1900-04	1895-99	1890-94
Fort Worth.....	1.8	....	....	....	....	....	....	....
San Antonio.....	3.1	8.8	8.7	6.7	7.6	17.1	20.6	4.4
New Orleans.....	5.1	6.9	11.6	19.6	10.2	11.5	17.1	51.3
Houston.....	5.6	6.6	6.1	7.8	10.5	....	....	....
Dallas.....	7.7	8.4	7.4	6.9	8.1	16.9	16.0	21.8

TABLE 8.—*Death Rates of Cities in Mountain and Pacific States from Diphtheria (Including Croup) per Hundred Thousand Population*

	1924	Average 1920-23	1915-19	1910-14	1905-09	1900-04	1895-99	1890-94
Seattle.....	7.6	6.3	5.5	5.2	12.5	31.8*	27.2†	....
Portland, Ore.....	11.1	11.4	6.0	12.3	12.2	20.2	....	....
Salt Lake City.....	11.6	12.7	14.5	15.1	34.2	46.0	14.8	56.7¶
Spokane.....	12.4	11.0	4.2	7.6	25.8	....	50.5†	18.1¶
Tacoma.....	16.5	11.4	7.7§	....	....	....	....	....
Oakland.....	18.2	19.0	8.1	10.3	16.1	29.1	....	....
Denver.....	20.6	23.8	6.7	10.2	20.8	29.6	27.3	130.2
Los Angeles.....	21.6	12.6	7.1	7.5	15.3	25.4	35.8	46.0
San Francisco#...	22.0	23.3	17.0	9.2	15.3	35.3	27.9†	82.8†

* Data for 1901-1904.
† Diphtheria deaths from Chapin's Municipal Sanitation.
¶ Data for 1892-1894.
§ Data for 1916-1919.
# The rates for San Francisco for the years 1900-1909, inclusive, were not available in the data sent by the department of health, and are taken from Crum's paper in the American Journal of Public Health (7:445 [May] 1917).

The twelve cities in the Middle Atlantic states (Table 2) also had a good diphtheria year in 1924, all but three showing a decrease as compared with the preceding four-year average. No city in this group had a rate above 20, a notable achievement. Trenton must be regarded as the banner city in this group, maintaining its preeminence for more than a decade.

The cities in the South Atlantic states (Table 3) keep up their excellent record, the low rates in Norfolk and Richmond being especially noteworthy. Baltimore continues its uniform decline.

The cities in the East North Central states (Table 4) make an impressive showing, only one (Dayton) failing to show a decline from the four-year average. The low diphtheria rates in Cincinnati, Grand Rapids, Chicago and Toledo, when compared with preceding years, are quite remarkable.

The cities of the East South Central states (Table 5), although but four in number, include two of the five cities in the country with rates under 2, Nashville and Louisville. Birmingham, also in this group, has the second lowest diphtheria average for the quinquennium 1920-1924, Norfolk being the lowest.

TABLE 9.—*Ten Cities with Highest Diphtheria Death Rates for 1924*

Worcester	23.0	Paterson	19.9
San Francisco	22.0	Camden	18.2
Boston	21.6	Oakland	18.2
Los Angeles	21.6	Bridgeport	17.4
Denver	20.6	Minneapolis	16.8

TABLE 10.—*Eleven Cities with Lowest Diphtheria Death Rates for 1924*

Nashville	1.6	San Antonio	3.1
New Haven	1.7	Birmingham	3.5
Norfolk	1.7	Cincinnati	3.9
Fort Worth	1.8	Columbus	4.1
Louisville	1.9	Kansas City, Mo.	4.1
Richmond	2.2		

TABLE 11.—*Cities Showing a Continuous Decline in Diphtheria Death Rates from 1890 to 1924*

Baltimore	Jersey City
Camden	Newark
Cincinnati	New York
Hartford	Philadelphia

TABLE 12.—*Number of Cities with Various Diphtheria Death Rates*

	40 and Over	20 and Over	10 and Over	Under 10
1890-1894	49	49	51	2
1895-1899	32	48	55	0
1900-1904	18	42	54	1
1905-1909	2	35	54	3
1910-1914	1	33	51	13
1915-1919	0	22	50	18
1920-1923	0	17	52	16
1924	0	5	32	37

TABLE 13.—*Total Average Diphtheria Death Rate, 1923, 1924*

	Total Population (68 Cities)* Estimated by the U. S. Census Bureau Methods	Diphtheria Deaths	Diphtheria Death Rate per 100,000
1923	29,041,809	3,821	13.16
1924	29,605,349	3,285	11.10

* These are the cities indicated in the summary with the exception of Fort Worth, for which the data for 1923 were not available.

The cities in the West North Central (Table 6) and West South Central states (Table 7) almost without exception had a relatively good diphtheria year, Kansas City, Mo., Kansas City, Kan., and St. Louis reporting particularly low rates.

The cities in the Mountain and Pacific states (Table 8), in contrast to those in almost all other sections of the country, are continuing to have an excessive diphtheria mortality. Evidently the epidemic wave that has affected this region since about 1920 has not yet spent its force. In every city in the group but one, the 1920-1924 average is considerably higher than the 1915-1919 average, in several instances more than double. It is of interest that Seattle, while showing some increase, has had by far the lowest diphtheria mortality in this group since 1920. The undoubted epidemic prevalence of diphtheria on the Pacific Coast in the last five years, as compared with the preceding decades, may well serve as a warning to other parts of the country that the relatively low diphtheria mortality now recorded in many American cities does not necessarily mean a permanent recession. It may be reasonably anticipated that new epidemic waves will arise and that official health agencies in many cities will be put to it to hold the ground already won.

The general outlook at the present time is highly encouraging. In 1924, only five cities had a diphtheria mortality rate greater than 20, as contrasted with 17 in the preceding four-year average, and thirty-seven had rates less than 10, as contrasted with sixteen in 1920-1923. Fourteen cities, indeed, had rates under 5, while none averaged so low in 1920-1923.

THE ART AND PRACTICE OF MEDICAL WRITING

VI. SECURING A BIBLIOGRAPHY *

GEORGE H. SIMMONS, M.D.
Editor and General Manager Emeritus, American Medical Association
AND
MORRIS FISHBEIN, M.D.
Editor, The Journal of the American Medical Association
CHICAGO

(Continued from page 1181)

Any one who desires to investigate the literature on a subject will do well to begin with the most accessible indexes; namely, those which appear in current periodicals. THE JOURNAL publishes at the end of each volume an index of the original articles appearing in its pages during the previous six months, and of articles appearing in other periodicals that have been abstracted in THE JOURNAL. It would be well to begin with this index and to look up the articles there mentioned, which are easily available. Many of these will contain references to other articles, and these, in turn, will refer to additional references. Thus, more and more references are accumulated, until perhaps a previous reference is found to an article by a reliable writer who has summarized the literature to the date of his publication. Then, of course, it will be unnecessary to search further.

THE QUARTERLY CUMULATIVE INDEX

Should the writer desire to make a more complete study of the subject, he should consult the *Quarterly Cumulative Index to Current Medical Literature*, published by the American Medical Association. This index was begun in 1916. In it, all subjects and authors are listed alphabetically and with sufficient cross-indexing to make the finding of references a simple matter. This index appears every three months; each number has an accumulation of the material in the previous quarterly numbers; the final volume covers the entire year. The *Quarterly Cumulative Index* also includes a list of the medical periodicals that it indexes, with full information concerning them; a list of new medical books, and a list of government pamphlets of medical interest. In case the article indexed has appeared in a periodical not published in the English language and has been abstracted in THE JOURNAL, reference is given also to the abstract.

THE INDEX MEDICUS

The *Index Medicus* has been published since 1879, except during the years 1899 to 1903. Originally, it was published monthly; the references were listed under a general heading, such as surgery, physiology, kidney and stomach. At the end of the year, the individual numbers might be bound, and a general subject and author index was issued for the complete bound volume. In 1921, a new plan was adopted. Since then, the *Index* has appeared quarterly, with the subjects arranged in alphabetical order. At the end of the year, an authors' index is supplied for the complete volume. This index is more inclusive than the *Quarterly Cumulative Index*. It contains references to almost all available medical periodicals, whereas the *Quarterly Cumulative Index* covers practically all periodicals of conceded importance.

INDEX CATALOGUE OF THE LIBRARY OF THE SURGEON GENERAL'S OFFICE

The Surgeon General's library at Washington, D. C., contains the greatest collection of medical periodicals, pamphlets and books of any medical library in America. It ranks second among the medical libraries of the world. being exceeded in size only by the Medical Library at Paris. In 1921, the latter institution contained 240,000 volumes and 800,000 pamphlets. The Surgeon General's Library during the same year contained 238,799 volumes and 366,925 pamphlets. In 1876, John Shaw Billings published a specimen sheet of a combined index catalogue, with authors and subjects arranged in alphabetical order. In 1880, the first volume of such an index catalogue was issued. This work has now reached its thirty-eighth volume, and covers the entire material in the Surgeon General's library. While it is the most valuable of all medical reference works available, it is never wholly down to date. The volumes come out slowly, and when the last volume of a series is issued the first volume is many years behind.

HOW TO SECURE THE COMPLETE LITERATURE

The author who wishes to secure the complete literature on a subject will do well to begin with the last available volume of the *Index Catalogue of the Library of the Surgeon General's Office*. Having secured these references, he may then consult the individual volumes of the *Index Medicus* up to recent date, the index to the bound volumes of THE JOURNAL up to 1916, and then complete his references with the *Quarterly Cumulative Index*. In referring to various articles on the list thus compiled, he undoubtedly will have his attention called to others which he overlooked in his compilation but which were noted by the authors whom he consults. These references may be added to his bibliography.

* This is the sixth of a series of articles. When concluded, these papers, together with additional material, will be published in book form.

Indexing is done largely by titles. Frequently, therefore, an article is indexed by a title that does not indicate its entire content, and it thus escapes the attention of the compiler of a bibliography.

Finally, we desire to emphasize that it is seldom desirable to review the complete literature on any subject in an ordinary periodical article. The science of medicine has grown so vastly, and its book and periodical literature are so extensive, that complete reviews repeat themselves endlessly in the literature.

SECURING MEDICAL PERIODICALS

A physician who has access to a good medical library will probably be able to find bound volumes of the most important medical periodicals. If he desires to consult references more than a few years old, it will be necessary for him to visit a medical library.

If the physician is anxious to consult the recent literature on any particular subject, he may secure periodicals published in the United States by ordering directly from the publishers. THE JOURNAL arranges to lend to its subscribers, on request accompanied by six cents in postage, recent numbers of periodicals that are indexed and abstracted in its Current Medical Literature department. On making proper deposit, a physician also may arrange to borrow from the Surgeon General's library.

BIBLIOGRAPHIC REFERENCES

The time has passed when it is excusable to bolster a report of a case or an article with a compilation of references to all the other cases of a similar nature that are reported in the literature. The growth of medical literature has made this not only a useless but also an unwarranted task. When an article is written, reference should be given only to such articles as illuminate the subject. There is hardly any one detail of a well prepared and well written article that will give a better and clearer idea of a writer's methods or foster a greater confidence in the accuracy and soundness of his views than well chosen, well arranged, absolutely correct references. References should be given only to articles that have been directly utilized by the author presenting them. To republish long bibliographies taken from other authors is a dishonest form of plagiarism which can only result in unduly burdening the literature with uninteresting and worthless lists of titles.

ACCURACY

Incorrect references may lead the reader to waste much time in searching for articles. If the author has actually consulted the reference works that he mentions, he will have his reference correct. An incorrect reference leads to the assumption that the author did not actually consult the works, but copied his reference from some other text or from some other manuscript in which they appeared incorrectly. The author may insure accuracy in his bibliographic references by seeing each article himself and verifying the reference. The accuracy of the reference is further substantiated by making it complete.

A complete reference to a book contains the following information:

1. Author's surname and initials.
2. Title of the book. Volume, if more than one have been published.
3. Edition.
4. Place of publication.
5. Name of publishers.
6. Page.
7. Year of publication.

A complete reference to an article in a periodical should contain:

1. Author's surname and initials.
2. Title of the article.
3. Name of the periodical, properly abbreviated.
4. Volume.
5. Page.
6. Month—and day of month if periodical is published weekly or more often than once a month.
7. Year.

The year and volume number may serve as checks on each other. The page number permits quick reference when the volume is at hand. The date is important, especially if the reference is to a recent periodical which is likely not to be bound—and it is safe to say that the large majority of medical men do not have their periodicals available in bound form. Furthermore, should it be necessary to purchase a number of the periodical, the publisher prefers to have the exact date of issue, rather than volume and page. In referring to some periodicals, for instance, the *British Medical Journal* and the *Lancet*, it is customary to use no volume numbers except 1 and 2 for each year.

FOOTNOTES

Footnotes should either be arranged in order on a separate sheet from the text, or, if written on the same sheet with the text, should be separated from it by lines, as in the following example:

In contrast with this, Rose[1] has demonstrated that succinic acid, even in large doses, is not a nephropathic agent, and the same is probably true of the usual food form of malic acid.

1. Rose, W. C.: The Nephropathic Action of the Dicarboxylic Acids and Their Derivatives, I, Tartaric, Malic and Succinic Acids, J. Pharmacol. & Exper. Therap. **24**: 123 (Sept.) 1924.

Footnotes that refer to the articles as a whole are starred, the star being placed after the title. For example:

PROBLEMS IN DIAGNOSIS *

* Read before the Section on Nervous and Mental Diseases at the Sixty-Ninth Annual Session of the American Medical Association, Chicago, June, 1918.

Or:

* From the Medical Clinic of Johns Hopkins University.

All other comments or bibliographic references on various matters mentioned in an article should ordinarily be used as individual footnotes, numbered consecutively through the article, with corresponding reference figures in the text. When the same reference is used twice, instead of duplicating the note or using the words "loc. cit.," it is better to repeat in the text the reference number of the original note. If the subject is of sufficient importance and novelty to merit an exhaustive bibliography, the references may be grouped at the end.

SAMPLE FOOTNOTES

1. De Lee, J. B., and Cornell, E. L.: Low Cervical Cesarean Section (Laparotrachelotomy): Results in One Hundred and Forty-Five Cases, J. A. M. A. **79**: 109 (July 8) 1922.

2. Hastings, A. B.; Murray, C. D., and Murray, H. A., Jr.: Certain Changes in the Blood After Pyloric Obstruction in Dogs, J. Biol. Chem. **46**: 223 (March) 1921. Murray, H. A., Jr.: The Bicarbonate and Chloride Content of the Blood in Certain Cases of Persistent Vomiting, Proc. Soc. Exper. Biol. & Med. **19**: 273, 1922; The Chemical Pathology of Pyloric Occlusion in Relation to Tetany, Arch. Surg. **7**: 166 (July) 1923.

3. A more complete discussion and bibliography of the pathogenesis of tetany, including the gastric type, is given by:
MacCallum, W. J.: On the Pathogenesis of Tetany, Medicine **3**: 137 (May) 1924.
Murray (Footnote 2, third reference).

4. The deaths from typhoid in each city are those reported to us by the respective health departments. The rates have been calculated on the basis of midyear 1924 population, estimated by the method of

the U. S. Census Bureau, save that in five instances, Hartford, Bridgeport, Washington, Akron and Youngstown, the 1920 census enumeration has been used.

5. Report of the Medical Research Council for the Year 1923-1924, Committee of the Privy Council for Medical Research, London, 1924.

6. Strong, R. P.: American Red Cross Medical Research Committee, Report of Commission on Trench Fever, Oxford University Press, 1918.

7. Milian, quoted by Beeson (Footnote 8).

8. Beeson, B. B.: Arsphenamine and Neo-Arsphenamine plus Adrenaline, Am. J. Syph. **3**: 192 (Jan.) 1919.

9. Tice, Frederick: Practice of Medicine, Hagerstown, Md., W. F. Prior Company, Inc., 1917.

10. Osler, William; and McCrae, Thomas: Modern Medicine, Ed. 2, Philadelphia, Lea & Febiger **3**: 9-98, 1914.

The semicolon after "William," in Footnote 10, shows that it is not the surname of a second author.

11. Looss, A.: The Anatomy and Life History of Agchylostoma Duodenale, Records of the Cairo School of Medicine **4**: 163, 1911.

12. Freer, P. C.: Philippine J. Sc. (Sec. B) **7**: 23, 1912.

13. Melvin, A. D.: The Classification of Market Milk, Bull. 41, Hyg. Lab., U. S. P. H. S., 1908, p. 559.

14. Hodge, C. F.: How You Can Make Your Home, Town or City Flyless, Nature and Culture, 4 West Seventh Street, Cincinnati, price 2 cents.

15. Poor and Steinhardt: J. Infect. Dis. **12**: 202 (Sept.) 1913; **13**: 203 (Sept.) 1913. Steinhardt and Lambert: Ibid. **14**: 87 (Jan.) 1914.

16. Einthoven has discussed the mathematics of this very fully and has published in the Archiv für die gasammte Physiologie des Menschen und der Thiere (**150**: 275, 1913) tables for determining from exact measurements of a given wave the exact angle of the current producing it.

17. The Cultivation of Malarial Parasites in Vitro, editorial, J. A. M. A. **61**: 1817 (Nov. 15) 1913.

18. Optimism, Current Comment, J. A. M. A. **62**: 1564 (May 16) 1914.

19. Ravaut, M. P.: Comment depister la syphilis nerveuse? Ann. de méd. **1**: 49, 1914; abstr., J. A. M. A. **62**: 734 (Feb. 28) 1914.

20. Adami on Medical Education, London Letter, this issue, p. 1917.

21. Nogier, T.: Emploi des rayons extrémement peu pénétrants en radiographie, Comp. rend. Acad. franç. p. l'avancement d. sc., 1912, p. 869.

For the sake of emphasis, some of the points in style may be formulated as follows:

Titles of articles and of books are not abbreviated.

Neither italics nor quotation marks should be used to distinguish titles of books, articles or periodicals in bibliographic references.

The word "Vol." is not to be used. Numbers of volumes are distinguished by boldface arabic numerals. Numbers of periodicals, if specified, are indicated by arabic numerals preceded by "No." Numbers of pages are ordinarily indicated by arabic numerals, preceded by "p.," unless the volume number immediately precedes, in which case the "p." is omitted.

Words of reference should precede their numerals. Thus: Ed. 2, Bull. 23, Series 13. Not 2d Ed., 23d Bull., 13th Series.

Foreign words of reference, such as tome (volume), fascicolo (part), Seite (page), Theil (part), Auflage (edition), Abteilung (Section or part), Band (volume), Heft (Number), Beiheft (Supplement) and Lieferung (part or number), should be translated.

OTHER METHODS OF PREPARING FOOTNOTES

The methods indicated previously are those followed by the periodical publications of the American Medical Association. Other periodicals have individual styles, which vary somewhat from those listed.

The *Index Medicus* and many American, British and foreign periodicals give year, volume and page, placing the volume number in Roman numerals. Following is an example:

(30) HERMAN: Prophylaxie de la maladie du brai. Bull. de l'Acad. roy. de méd. de Belgique, Serie IV, 1919, xxix, 599-606.

(31) BAYET AND SLOSSE: L'intoxication houillère arsénicale. Compt. rend. Acad. d. Sc. Paris, 1919, clxviii, 704-706.

(32) GILBERT: Contribution a l'étude du cancer professional. Bull de l'Acad. roy. de méd. de Belgique, 1919, xxix, 627-654.

The *Journal of Infectious Diseases* and several British publications follow the following style:

49. Oliver, J.: Mechanism of Urea Excretion, Jour. Exper. Med., 1921, 33, pp. 177-186.

50. Pinoy, Ed.: Sur la nécessité d'une association bactérienne pour le développment d'une Myxobactérie, Chondromyces crocatus, Compt. rend. Acad. d. Sc., 1913, 157.

51. Piras, A.: Sulla dimostrazione microchemica dell urea, Arch. d. fisiol., 1922, 20, p. 237.

52. Policard, A.: Recherches histo-chimiques sur le metabolisme de l'urée dans le rein, Compt. rend. Soc. de biol., 1915, 78, p. 32.

A contributor should acquaint himself with the form used by the periodical to which his paper is to be submitted.

(To be continued)

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES. A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION. W. A. PUCKNER, SECRETARY.

PROTEIN EXTRACTS DIAGNOSTIC-P. D. & CO.

(See New and Nonofficial Remedies, 1924, p. 255).

The following products have been accepted:

Apricot Protein Extract Diagnostic-P. D. & Co.; Cauliflower Protein Extract Diagnostic-P. D. & Co.*; Daisy (Ox-Eye) Pollen Protein Extract Diagnostic-P. D. & Co.‡; Daisy (Yellow) Pollen Protein Extract Diagnostic-P. D. & Co.‡; Friedlander Bacillus Protein Extract Diagnostic-P. D. & Co.‡; Lentil Protein Extract Diagnostic-P. D. & Co.*; Micrococcus Tetragenus Protein Extract Diagnostic-P. D. & Co.‡; Oak Pollen Protein Extract Diagnostic-P. D. & Co.‡; Paratyphoid Bacillus A Protein Extract Diagnostic-P. D. & Co.‡; Paratyphoid Bacillus B Protein Extract Diagnostic-P. D. & Co.‡; Pine Pollen Protein Extract Diagnostic-P. D. & Co.‡; Streptococcus (Hemolytic) Protein Extract Diagnostic-P. D. & Co.‡; Streptococcus (Non-Hemolytic) Protein Extract Diagnostic-P. D. & Co.‡*

Prepared by the methods given in New and Nonofficial Remedies, 1924, p. 255.

GROUP PROTEIN EXTRACTS DIAGNOSTIC-P. D. & CO.

(See New and Nonofficial Remedies, 1924, p. 259).

The following products have been accepted:

Protein Extracts Diagnostic-P. D. & Co. Group 8 (Bean [Lima], Bean [Navy], Bean [String], Pea, Lentil); Protein Extracts Diagnostic-P. D. & Co. Group 10 (Cabbage, Cauliflower, Lettuce, Parsnip, Spinach); Protein Extracts Diagnostic-P. D. & Co. Group 20 (Colon Bacillus, Gonococcus, Staphylococcus Albus, Staphylococcus Aureus, Staphylococcus Citreus); Protein Extracts Diagnostic-P. D. & Co. Group 21 (Friedlander Bacillus, Micrococcus Catarrhalis, Micrococcus Tetragenus, Pseudodiphtheria Bacillus); Protein Extracts Diagnostic-P. D. & Co. Group 22 (Pneumococcus Types I, II and III, Streptococcus Hemolytic, Streptococcus Non-Hemolytic); Protein Extracts Diagnostic-P. D. & Co. Group 23 (Typhoid Bacillus, Paratyphoid Bacillus A, Paratyphoid Bacillus B).

PERTUSSIS BACILLUS VACCINE

(See New and Nonofficial Remedies, 1924, p. 320).

Cook Laboratories, Inc., Chicago.

Whooping Cough Vaccine X Plain.—A suspension of killed *Bacillus pertussis* in physiological solution of sodium chloride, preserved with 0.4 per cent. of cresol. Marketed in packages of four 1 Cc. carpules (tubes) containing, respectively, 500 million, 1,000 million, 1,500 million and 2,000 million killed bacteria per cubic centimeter; in single 1 Cc. carpule packages containing 2,000 million killed bacteria per cubic centimeter and in packages of ten 1 Cc. carpules, each containing 2,000 million killed bacteria per cubic centimeter.

STAPHYLOCOCCUS VACCINE

(See New and Nonofficial Remedies, 1924, p. 323).

Cook Laboratories, Inc., Chicago.

Staphylococcus Vaccine (Combined).—A suspension of killed *Staphylococcus albus* and killed *Staphylococcus aureus* in equal proportions, in physiological solution of sodium chloride, preserved with 0.4 per cent. of cresol. Marketed in packages of four 1 Cc. carpules (tubes) containing, respectively, 500 million, 1,000 million, 1,500 million and 2,000 million killed bacteria per cubic centimeter; in single 1 Cc. carpule packages containing 2,000 million killed bacteria per cubic centimeter and in packages of ten 1 Cc. carpules, each containing 2,000 million killed bacteria per cubic centimeter.

STREPTOCOCCUS VACCINE

(See New and Nonofficial Remedies, 1924, p. 325).

Cook Laboratories, Inc., Chicago.

Streptococcus Vaccine X Plain.—A suspension of killed *Streptococcus pyogenes* in physiological solution of sodium chloride, preserved with 0.4 per cent. of cresol. Marketed in packages of four 1 Cc. carpules (tubes) containing, respectively, 125 million, 250 million, 375 million and 500 million killed bacteria per cubic centimeter; in single 1 Cc. carpule packages containing 500 million killed bacteria per cubic centimeter and in packages of ten 1 Cc. carpules, each containing 500 million killed bacteria per cubic centimer.

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SATURDAY, APRIL 25, 1925

THE IMMODERATE PUBLICITY OF SCIENCE

In recent years, many of the sciences have found it increasingly easy to demonstrate how indispensable they are to modern life. This has been conspicuously true since the World War, during which science in the broadest sense made itself felt as a constructive factor in the solution of innumerable problems. This period of stress presented many serious difficulties that needed to be overcome promptly. The physicists and chemists, in particular, bent their energies to the task, with results that brought widespread acclaim. In the works of either construction or destruction, chemistry and physics contributed in many new and unanticipated ways. Necessity became the mother of invention in the scientific laboratories. The latter deserve much, and they have been justly lauded. One hears on many sides that "science has come into its own" in the last decade.

Unfortunately, this change in public attitude has gradually developed a sort of deification of science—a belief that its magic touch will convert whatever it meets into golden novelties of surpassing value. Those who are devoted to scientific research, however, well realize that, while unlimited vistas have been opened in almost every direction, each extension of knowledge has placed the goal of complete information farther and farther away. In most fields, the stage of cautious approach has scarcely been passed.

The scientist himself is, as a rule, sufficiently modest in the claims that he advances. No one realizes better than he the shortcomings and incompleteness of his work, despite its greatest achievements. It is unfortunate, therefore, that the appreciative but less informed public should continue to be regaled with promises and stories of performance that border on the fairyland of science. It is never advantageous to permit good impressions to be impaired. Every cause loses something when its reputed idols are destroyed. That is why all interested in real progress look with concern on the wave of exaggerated statement that sweeps through the public press in its presentations of present-day scientific endeavors. For example, a recent issue of a metropolitan daily, in outlining what it describes as the "mobilization of the foremost minds of science into a concentrated attack" on the study of one of the long investigated diseases, flamboyantly characterizes "the advances made in the four years of secret research work by a group of master minds" as tremendous. Yet a careful review of the subject shows that real advance has been made only by persistent gains in small details, the sum total of which in the long run spells progress. The modest forcefulness of scientific effort is lost in claims of "gigantic" efforts and allegations of "tremendous" successes. Harm and suffering result all too often from the unfulfilled hopes that such hyperbole engenders. Furthermore, secrecy is not the dominant characteristic of research.

Exaggeration has likewise obtruded itself into the popular reports of the action of new drugs. Yesterday, it was a "marvelous cure" for tuberculosis, launched on inadequate evidence and almost thrust with inadequate tests on an expectant public. Again, it is some gland extract that eliminates incurable disease or even rejuvenates the aged. Today it is the "ideal" antiseptic or the "ideal" anesthetic, reputed, so the press reports run, to meet every need with unrivaled success. Yet ideal drugs remain for the most part a myth. Perfect cures soon disclose their limitations and imperfections. Scientific endeavor is at best struggling toward the ideal and the better. The quack alone finds perfection in his own performance. Let us not countenance his methods of promotion in the name of progressive medicine in the columns of a tolerant press longing for news that thrills. Shattered hopes do not make friends even for science.

GLAZES AND ENAMELS OF COOKING UTENSILS

During the World War, when various phobias were receiving undue attention, charges were made of wholesale attempts to poison the citizens of the warring nations through the sale of cooking utensils that contained in their linings chemicals of a fearsome and poisonous nature, or that readily disintegrated, yielding sharp chips likely to interfere seriously with the contiguity of the walls of the stomach and intestine. Investigations made at that time showed that the latter charges were founded on slight evidence and that there was little warrant for the belief that chips from enamel occurred in food in any considerable amounts.

Recently the ministry of health of Great Britain has issued a publication[1] that provides definite evidence relative to the question of the solubility of poisonous ingredients used in making glazed and enameled cook-

1. Monier-Williams, G. W.: The Solubility of Glazes and Enamels Used in Cooking Utensils, Reports on Public Health and Medical Subjects, No. 29, Ministry of Health, London, His Majesty's Stationery Office.

ing utensils. The investigations were directed by Dr. G. W. Monier-Williams, chemist in the foods division of the ministry. His experiments were practical, in that they involved the action of citric acid solutions and of various foodstuffs on casseroles, dishes and enameled cooking vessels. An outbreak of lead poisoning in 1922, due to the use of enameled tanks containing lead for the storage of beer, was additional warrant for the study. Most of the lead-glazed cooking ware used in England, it was found, is imported from France; some is manufactured in England at a small pottery in the southern counties. The glaze on pottery contains as ingredients red lead, clay, flint, plaster of Paris and washing soda. The lead is necessary since it requires lower firing temperature, fuses better, and results in a product that is more brilliant in appearance. In the experiments, casseroles glazed in this manner were filled with a 1 per cent. citric acid solution, and heated for half an hour; the experiment was repeated subsequently for two further periods of half an hour each with fresh citric acid solution. It was felt that considerable quantities of lead might be yielded by poorly made pottery in such an experiment. In one instance the citric acid solution at the end of four hours contained as much as 0.02 per cent. of lead. It was thought that casseroles would hardly be subjected under ordinary domestic conditions to such prolonged treatment with a solution of this degree of acidity, and the experiments were repeated with a number of typical foodstuffs, such as vegetable broths, meat broths, apples and rhubarb. Under certain conditions a marked amount of lead contamination occurred. The investigators were inclined to recommend either that lead glazes be forbidden in the manufacture of such ware, or that the ware be manufactured in such a manner as to produce lead glazes which show a negligible solubility on prolonged heating with citric acid solution.

In the process of enameling hollow-ware cooking utensils, the metal is first cleaned and dried and the enamel mixture applied in a thin coat, after which the vessel is dried and fired. The enamels contain numerous ingredients, including in some instances the oxids of tin, antimony, cobalt, iron, manganese or nickel. Careful tests were made of the chipped enamels from such vessels, and tests with citric acid were made, similar to those applied to the glazed vessels. It was found that the chief ingredient dissolved from the enamel was boric acid, and occasionally small quantities of antimony and tin. It was stated, however, that "the probability that undesirable constituents in significant amounts may be dissolved from enamel hollow ware during the ordinary processes of cooking may be regarded as remote." Accurate evidence is thus provided to offset a misguided public opinion that might work considerable damage to important and useful industries.

ALKALIS AND GASTRIC SECRETION

There are few drugs that find a more widespread use, not only in the prescriptions of physicians, but also through the dictates of lay tradition, than does the alkali sodium bicarbonate. It is popularly employed in the household without medical direction for the relief of the vague symptoms comprehended in the ill defined term indigestion; the bicarbonate is made to function as a so-called antacid, particularly when a diagnosis of hyperacidity is ventured; and the alkali is also occasionally ingested in the belief that somehow it will function as a digestant by promoting gastric secretion. In addition to these familiar everyday employments of sodium bicarbonate for alimentary responses, either as such or in the guise of one of the various "mineral waters" of which it forms the most potent ingredient, the drug is administered therapeutically to combat acidosis of a general or systemic type.

It is surprising that there should be so much uncertainty and difference of opinion regarding the actual physiologic behavior and pharmacologic function of a substance that finds such extensive and varied administration under the guise of medicinal need. It has been pointed out on a previous occasion [1] that the once widely practiced use of sodium bicarbonate to combat diabetic acidosis no longer finds approval from some of the most competent clinicians. With respect to the gastric responses that this alkali elicits, current opinion remains confused. There can, of course, be no doubt of the inherent capacity of the alkali to neutralize acids within the cavity of the stomach, as elsewhere. As has been pointed out in the Pharmacology of Useful Drugs,[2] it was formerly taught that the administration of therapeutic doses of the alkalis causes increased gastric secretion, but that they appear to have no important effect on the activity of the secretory apparatus. Sir Lauder Brunton was accustomed to tell his students of a patient who continued the use of sodium bicarbonate for thirty years without any apparent harm being done. On the other hand, one may read modern accounts of gastric damage ranging from reduction in secretion to chronic gastritis, with permanent absence of enzyme and hydrochloric acid from the stomach, all attributed to the long continued use of popular alkaline waters.

In the midst of the current confusion of experience and beliefs, it is refreshing to pass to the results of careful observation under controlled experimental conditions, such as Boyd [3] has recently made in the physiologic laboratory of the University of Chicago. His results, obtained with dogs, show no after-effect

1. Recent Developments Concerning Acidosis and Alkalosis and the Misuse of Alkali Therapy, editorial, J. A. M. A. **77**: 1657 (Nov. 19) 1921.
2. Hatcher, R. A., and Wilbert, M. I.: The Pharmacology of Useful Drugs, Chicago, American Medical Association, 1915, p. 418.
3. Boyd, J. E.: The Influence of Alkalis on the Secretion and Composition of Gastric Juice, I, The Effect of the Prolonged Administration of Sodium Bicarbonate and Calcium Carbonate, Am. J. Physiol. **71**: 455 (Jan.) 1925; II, The Effects of Single Doses of Sodium Bicarbonate and Calcium Carbonate, ibid., p. 464.

of gastric secretory depression from feeding alkalis; on the contrary, they indicate a tendency to hypersecretion. Not even as an immediate effect was any depression observed until the dosage was carried considerably above that ordinarily used in human therapy. For example, the feeding of sodium bicarbonate in amounts up to 1 gm. per kilogram of body weight daily over considerable periods of time failed to produce any diminution in the average quantity or acidity of gastric juice. Only when an augmented dosage brought about symptoms of gastro-intestinal irritation did an occasional depression of secretion occur; but it never outlasted the period of alkali administration. Like various earlier investigators, Boyd found frequent stimulation of secretion when smaller doses of alkali are occasionally given after food. It would be rash to translate these findings without further investigation of human disease. On the other hand, they should teach us to maintain a critical attitude toward some of the "alkali myths," which represent, in many instances, merely the expression of uncontrolled personal impressions.

Current Comment

THE MAXIMUM OF HUMAN POWER

In recent years it has become common to make references to the "man power" of various nations. This expression has, of course, been used in a figurative sense with an implication quite different from that which applies to the familiar discussions of "horse power" in the engineering world. Nevertheless the human machine, represented by the living body, is an organization of no mean power that still is responsible for many acts of importance in the daily tasks of the world. The problem of food supply is concerned in considerable degree with satisfying the energy requirements of man; and the latter in turn depend in large measure on the physical work that he does. The energy "turn over" of the adult ranges from the minimal basal requirement at rest without food to that of the person at hard labor; in round numbers, these differences may be expressed as 1,500 and 6,000 calories daily. These figures give no idea, however, of what the maximal muscular performance of man may be during brief periods of work; for it is evident that such extreme exertion cannot be protracted over a long time without becoming limited by fatigue, the safety device that prevents overwork. Several years ago, Benedict and Cathcart [1] recorded the effort of a professional bicyclist who rode a stationary bicycle to the point of exhaustion. He worked in this way four hours and twenty-two minutes, accomplishing 208,000 kilogrammeters of work, nearly 13 kgm. a second. This performance was the equivalent of more than a "century run" of 100 miles. A newer record of highly developed man power has been furnished by Henderson and Haggard [2] of Yale University from a study of members of the crew representing America at the Olympic games in Paris, 1924, at which they established a world's record for the 2,000 meter race. Measurements made on five of the participants indicated that the maximal power exerted is from 0.45 to 0.55 horse power per man, or, expressed in the heat equivalents, from 4.8 to 5.9 calories a minute, with a total energy expenditure of from 19 to 29 calories a minute, or from thirteen to twenty times the basal rate. The power expressed by the smaller of each of these pairs of figures is that maintained, and is therefore approximately the maximum that a man can maintain, for twenty-two minutes during a 4 mile race; while the higher figures are applicable to the more intense exertion and greater speed, which are also maximal for about six minutes in races of about 1⅓ miles, or 2,000 meters. The corresponding figures for the volume of oxygen consumed each minute are 3.5 and 4 liters; the latter figure is about the limit of the transporting capacity of the lungs, blood and heart. It is interesting to learn that under such conditions of stress an oarsman exerts a power that exceeds by from 30 to 60 per cent. that afforded by the oxygen simultaneously absorbed; he thus draws heavily on his credit, and incurs oxygen deficits of from 4 to 8 liters or more, and these deficits are repaid by the high rate of oxygen absorption for a time after the work is ended. The working capacity of man evidently is limited by the restrictions in his ability to furnish oxygen over long periods of maximal effort to the contractile tissues, rather than by any inferiority of the latter.

BEAUMONT CORROBORATED

In the record of Dr. William Beaumont's observations on the gastric functions of Alexis St. Martin, his patient with a gastric fistula, this statement, in reference to the secretion in the stomach, appears:

> This fluid, the efficient cause of digestion—the true gastric juice of Spallanzani, I have no doubt—has generally been obtained, for experiment, by mechanical irritation of the internal coat of the stomach, produced by the introduction of a gum-elastic tube, through which it has been procured.

On the basis of several statements of this sort, the belief soon became widespread that gastric secretion can be provoked by the mere mechanical stimulation of substances present in the stomach. Beaumont explicitly pointed out that "when mechanical irritation by a nondigestible substance, as the elastic tube, stem of the thermometer, etc., is used, the secretion is probably less than when the irritation is produced by such substances as are readily dissolved in gastric juice." On the basis of such considerations, it was customary to read in the physiologic textbooks of a generation or more ago that the flow of gastric juice is incited by a variety of forms of stimulation, among which both mechanical and chemical factors were included. Contrary to this long promulgated belief,

1. Benedict, F. G., and Cathcart, E. P.: Muscular Work, Pub. 187, Carnegie Inst., 1914.

2. Henderson, Yandell; and Haggard, H. W.: The Maximum of Human Power, and the Fuel of Muscular Work, from Observations on the Olympic Championship Crew of 1924, J. Biol. Chem. 63: lxix (Feb.) 1925.

Pawlow and his co-workers denied that mechanical stimulation of the gastric mucosa is capable of bringing about any secretion whatever. The distinguished Russian physiologist averred that his predecessors had been in error. Consequently, the older assertions of Beaumont were challenged, and they have been explicitly abandoned by writers since the beginning of the present century. Recently, a group of investigators, under the leadership of Dr. Ivy [1] of the physiologic laboratory at the University of Chicago, have approached the problem anew by observations on animals surgically prepared with an isolated pouch of the entire stomach and a duodeno-esophageal anastomosis. Contamination of such a sequestered stomach with saliva or duodenal contents could thus be entirely avoided. In subjects that are in an excellent state of nutrition, distention of the stomach with a balloon unmistakably stimulates the gastric glands, as was demonstrated in public at the scientific meetings of the Federated Biologic Societies in Washington during convocation week. Evidently Beaumont was correct in his inferences of nearly a century ago with respect to mechanical stimulation of the gastric mucosa; and this is only one of his many statements that have stood the test of science in a period far more resourceful in technic than was his day.

THE ALIMENTARY IMPLANTATION OF LACTOBACILLUS ACIDOPHILUS

Those who have followed the successive changes of view regarding the dietotherapeutic rôle of lactic acid-producing micro-organisms since the pioneer writings of Metchnikoff on this subject must have wondered how any feature of it can have retained scientific stability. Claim after claim has hastily been set up only to be abandoned or discarded in the course of a short period. Yet the practical use of the types of bacteria here concerned somehow persists in one form or another with a pertinacity that challenges some attention. For the present, therefore, it seems most desirable to secure the outstanding facts about the acidophil microbes that may find their way into the human alimentary tract. Recent studies seem to indicate that *Lactobacillus bulgaricus,* on which attention was first focused, cannot be implanted or made to proliferate in the intestine, even when administered in large numbers. For this reason, doubt has been cast on any alleged physiologic action of this organism in the intestine.[2] The preference that has latterly been given to *Lactobacillus acidophilus* [3] is based on claims of superior possibilities of alimentary implantation. The latest investigations of Kopeloff and Beerman [4] at Ward's Island, New York, seem to establish anew that *L. acidophilus* differs from *L. bulgaricus* in its ability to live in the gastro-intestinal tract. The implantations were undertaken with so-called acidophilus milk, and it is significant that a week after discontinuing its use *L. acidophilus* was no longer present in the feces. Why two strains of acid-producing organisms seemingly so closely related culturally and morphologically should show such diversity in alimentary behavior has been puzzling. Studies [5] in the Bureau of Dairying at Washington suggest that surface tension may be a decisive factor in the implantation of the organisms.

1. Ivy, A. C.; Lim, R. K. S.; McCarthy, J. B., and Farrell, J. I.: The Causes of Gastric Secretion, with a Consideration of the Mechanism Concerned, Am. J. Physiol. **72**: 203 (March) 1925; Demonstration of Stimulation of the Gastric Glands by Mechanical Distention of the Stomach with Specimens and Roentgenograms of a Pouch of the Entire Stomach, ibid., p. 232.

2. New and Nonofficial Remedies, 1924, p. 170.

3. Rettger, L. F., and Cheplin, H. A.: The Intestinal Flora, New Haven, Yale University Press, 1921.

4. Kopeloff, N., and Beerman, P.: L. Acidophilus versus L. Bulgaricus Milk Feeding, Proc. Soc. Exper. Biol. & Med. **22**: 318 (March) 1925.

5. Albus, W. R., and Holm, G. E.: The Effect of Surface Tension on the Growth of Lactobacillus Bulgaricus and Lactobacillus Acidophilus, Proc., Soc. Exper. Biol. & Med. **22**: 337 (March) 1925.

Association News

THE ATLANTIC CITY SESSION

The Woman's Auxiliary of the American Medical Association at Atlantic City

The Hotel Traymore will be the Headquarters for the Woman's Auxiliary and the general meeting place for women visitors. Women are urged to register as soon after arrival as possible, in order that they may receive full details of all the arrangements that have been made for their comfort and pleasure. The program as at present arranged is as follows:

Monday and continuing throughout the week: Registration of wives, daughters, mothers and sisters of physicians as members-at-large of the Woman's Auxiliary of the American Medical Association. Fee, $1. Registration booths will be located in the Steel Pier.

Tuesday: Meeting of the officers and Executive Board of the Woman's Auxiliary in the morning at the Hotel Traymore.

Wednesday: Dinner at the Hotel Traymore at 7 p. m. Subscription, $5. Tickets on sale at the Registration Booth. The speaker will be announced later.

Thursday: General meeting of the members of the Woman's Auxiliary in the morning at the Hotel Traymore. New officers and members of the Executive Board will be elected. All women who have registered will be entitled to vote.

Friday: Meeting of the newly elected officers and Executive Board in the morning at the Hotel Traymore.

Exhibit by the Section on Dermatology and Syphilology

The Section on Dermatology and Syphilology has prepared a special exhibit this year on the subject of syphilis. The exhibit is in charge of a Committee composed of Howard Fox, William Allen Pusey and Fred D. Weidman. The aim of the exhibit is to give a comprehensive and systematic demonstration of the whole subject of syphilis, beginning with etiology and ending with therapeutics, showing every phase of the disease, including nervous, congenital and visceral syphilis. The exhibit will be divided into the following classifications: (1) etiology; (2) course and symptomatology; (3) differential diagnosis; (4) therapeutics. The announcement of those who are to participate in this exhibit was not received in time for the Atlantic City Number of THE JOURNAL, so is given herewith:

A. BENSON CANNON, New York: Visceral syphilis. Exhibit of gross pathologic material showing syphilis of the heart, blood vessels, liver, spleen, lungs, bones and nervous system.

H. N. COLE, Cleveland: Pictures of syphilitic cases. Exhibit showing (*a*) cases of primary genital syphilis; (*b*) cases of primary extragenital syphilis; (*c*) cases of secondary syphilis; (*d*) late syphilis. Also pictures illustrating rate of absorption of mercury and bismuth salts as revealed by the roentgen ray.

JOHN A. FORDYCE, New York: Histopathology of syphilitic lesions. Exhibit of about seventy-five photomicrographs illustrating syphilitic lesions of the skin, mucous membranes, nervous system and viscera. Also sections of syphilitic lesions under microscopes.

FRANK C. KNOWLES, Philadelphia: Differential diagnosis of syphilis. Exhibit of photographs.

JOSEPH V. KLAUDER, Philadelphia: Primary syphilis. Exhibit of photographs showing various types of primary lesion chancres involving the male genitalia; also charts and wax models.

WILLIAM LINN MCBRIDE and CHARLES CLAYTON DENNIE, Kansas City, Mo.: Prevention and control of the untoward effects of arsenic, mercury, bismuth compounds and iodids in the treatment of syphilis. Exhibit of photographs, models and gross morbid specimens.

RESEARCH INSTITUTE OF CUTANEOUS MEDICINE GROUP: JAY FRANK SCHAMBERG and ASSOCIATES, Philadelphia: MISS KAST and DR. WILKES: Demonstration of stained *Spirochaeta pallida* by Fontana, India ink and other methods. MISS RULE: Demonstration of rabbit testicular and other lesions of syphilis. MISS RULE and MISS KAST: Demonstration of living *Spirochaeta pallida* by dark field microscope. MISS YAGLE: Demonstration of cerebrospinal fluid changes in syphilis (cells, protein, colloidal gold, colloidal mastic and Wassermann tests). MISS YAGLE: Demonstration of Kolmer complement fixation tests with blood and Kolmer precipitation test. MISS RULE: Demonstration of living *Trypanosoma equiperdum* in rat test parasite for organic arsenicals.

JOHN H. STOKES, Department of Dermatology and Syphilology, University of Pennsylvania School of Medicine, Philadelphia: Treatment of syphilis, with special reference to arsphenamin. The exhibit will consist of repeated demonstrations of the technic of the clinical preparation of the arsphenamins and of their intravenous, intramuscular and intraspinal administration. This will be accomplished by a competent operator, assisted by a nurse, and by suitably prepared dummies or models, to be used in illustrating the various postures and manipulations involved.

WILLIAM B. TRIMBLE, New York: The mottled chin in syphilis. Exhibit of photographs and colored pictures.

KARL G. ZWICK, Cincinnati: Exhibit of photomicrographs and histologic sections explaining route of absorption of mercury by the skin of experimental animals.

Reunion of Medical Officers

A dinner and reunion of medical officers who served in the World War will be held during the session of the Association at the Ritz Carlton Hotel at 7 o'clock, Wednesday evening, May 27.

The Surgeon Generals of the Army and Navy, Major Gen. M. W. Ireland and Admiral E. R. Stitt, Brig. Gen. J. M. T. Finnie, Base Hospital No. 1, and Lieut. Col. W. D. Haggard (consulting surgeon, American Expeditionary Forces, France), President of the American Medical Association, have consented to speak.

For dinner reservations address Dr. Burt R. Shurly, 62 Adams Avenue West, Detroit, or Dr. P. J. H. Farrell (Colonel, M. O. R. C.), 25 East Washington Street, Chicago.

Class Reunion

There will be a reunion of the class of 1903 of the College of Physicians and Surgeons, of Baltimore. All members of this class contemplating attending the meeting should communicate with the class secretary, Dr. A. F. Ries, 24 South Broadway, Baltimore.

Therapeutic Value of Drugs.—The ultimate proof of the value of any remedy can be established only at the bedside. This is a fact which we are apt to forget. Hypothetical considerations and the results obtained by the laboratory worker are invaluable because of the possibilities and indications they suggest, but the clinician is responsible for the final evidence.—Bramwell, Edwin: *Lancet* **1**:265 (Feb. 7) 1925.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

CALIFORNIA

State Journal Raises Price.—The council of the California Medical Association adopted the recommendation of the editor of *California and Western Medicine*, that the subscription price be increased to $5 a year and 50 cents for a single copy, beginning with the March number.

The Bunnell Memorial.—A plaque cast in bronze, commemorating the naming of Yosemite Valley by Dr. Bunnell in 1851, who, as a member of the Mariposa battalion, was among the first white men to enter the valley, will be dedicated by the California Medical Association at its annual meeting, May 19. The memorial will be mounted on a rock at the foot of El Capitan, across the river from where the Mariposa battalion made camp.

No Exhibits at State Meeting.—The council and the executive committee of the California Medical Association decided that there will be no exhibits authorized at the annual meeting in Yosemite National Park. Accredited representatives of firms recognized in the advertising columns of *California and Western Medicine* will be accepted as accredited visitors to the meeting and authorized to solicit members and guests. Exhibits by all such representatives will be located in Oak and Cedar cottages in Yosemite Village. In addition to prominent Californians who will give addresses, Dr. Verne C. Hunt, Mayo Clinic, Rochester, Minn., will address the general surgical section on "The Relationship of the Clinical Pathologist to Surgical Practice," and the urology section on "Suprapubic Prostatectomy." Hon. George F. McNoble, Stockton, president, California State Bar Association, will address the Medical Society of the State of California, a suborganization of the California Medical Association, organized to furnish the protection of its members in malpractice suits and to eradicate conditions giving rise to such actions. His subject is, "The Doctor in Court." The Yosemite Transportation System will maintain adequate service between all meeting places of the various sections and hotels, including Camp Curry and the Lodge.

DISTRICT OF COLUMBIA

Personal.—Surg. Gen. Merritte W. Ireland, U. S. Army, has gone to the Panama Canal Zone for the annual inspection of hospitals and sanitation.——Dr. James G. Cumming, formerly of the health department of Philadelphia, has been appointed chief of the contagious disease division of the district health department, to succeed Dr. John T. Sprague, resigned.

ILLINOIS

Chiropractor Charged with Killing Child.—H. V. Kovski, a chiropractor, landed in Athens a few months ago, opened an office and began advertising. In due time he was called to attend a child, aged 5 years, which had bronchopneumonia. Kovski, it is reported, placed the child, face downward, on two tables separated about 8 inches, and began manipulating the child's spine; when he came to the portion unsupported between the tables (he is said to have used great force), the child cried out with pain and expired. At the coroner's inquest it was found that death resulted from the chiropractic treatment. Kovski is being held under $3,000 bond to await the action of the grand jury. He is not licensed to practice in Illinois.

Chicago

Society News.—Dr. Hugh H. Young, Baltimore, who addressed the Chicago Medical Society, April 22, on "The Use of Intravenous Germicides in the Treatment of General and Local Infections and Infectious Diseases," and in whose honor a dinner was given at the Hamilton Club that evening, held a clinic at 2 o'clock at the Cook County Hospital, and lectured on "Prostatic Surgery," illustrated by lantern slides. ——At the April 27 meeting of the Chicago Society of Internal Medicine, City Club, Drs. Karl K. Koessler and Julian H. Lewis will speak on "Certain Pharmacodynamic Actions of Bacterial Poisons"; Drs. Walter H. Nadler, Merritt Paul

Starr and Gertrude Tukey, "Glycemia as a Practical Guide in the Treatment of Diabetes Mellitus," and Edwin H. Hatton on "Changes About the Apexes of the Teeth Following Infection and Filling of the Pulp Canals."——The annual meeting of the Chicago Laryngological and Otological Society will be held at the Great Northern Hotel, April 27. This will be the last meeting of the year and is open to members only.

Report of Visiting Nurse Association.—In its thirty-fifth annual report, the Visiting Nurse Association of Chicago is defined as a field hospital furnishing skilled nursing to the sick in their homes, no nursing being given in any home after the first visit unless there is a physician in attendance. The association made 255,080 visits in homes in this city during 1924. There was an average of six visits to each patient, of whom nearly 13,000 were mothers and new-born babies. Visits are free to the poor, but a minimum charge is made to patients who can pay a small fee. An insurance company and four corporations in Chicago pay the association for visiting their sick industrial policyholders and employees. There are endowed nurses, special endowments in the form of memorial, scholarship, or relief funds and nurses supported by special subscriptions. The association has no paid solicitors, the entire budget being raised by the directors by personal solicitation. The association is in a normal financial condition, more than $50,000 being added to its endowment in 1924. The amount necessary to endow the support of a nurse is $30,000.

LOUISIANA

Appointments to State Board of Health.—The following have been appointed members of the State Board of Health of Louisiana, representing congressional districts as indicated: first, Dr. Adolph O. Hoefeld, New Orleans; second, Dr. Michael P. Boebinger, New Orleans; third, Mr. T. J. Labbe, St. Martinsville; fourth, Fred Ratzburg, D.D.S., Shreveport; fifth, Dr. Thomas E. Wright, Monroe; sixth, Mrs. L. C. McVoy, Baton Rouge; seventh, Dr. Theophilus T. Tarlton, Grand Coteau; eighth, Dr. Edgar S. Matthews, Bunkie; at large, Dr. Oscar Dowling, New Orleans.

State Medical Election.—At the annual meeting of the Louisiana State Medical Association, New Orleans, April 21, Dr. E. M. Ellis, Crowley, was installed as president; Dr. Stephen M. Blackshear, New Orleans, was chosen president-elect; Drs. Hector E. Bernadas, New Orleans, and Carl A. Weiss, Baton Rouge, new councilors; Drs. Oscar Dowling and Arthur A. Herold, Shreveport, and Drs. Hermann B. Gessner, Adolph O. Hoefeld and Hiram W. Kostmayer, New Orleans, publication committee of the journal; Dr. William H. Seemann, New Orleans, delegate to the American Medical Association, and Dr. Paul J. Gelpi, Jr., New Orleans, alternate delegate. The next meeting will be at Monroe.

MAINE

Health Officer Resigns.—Dr. Leo F. Hall, health officer of Auburn since 1920, has resigned to accept a position as deputy health commissioner of Cuyahoga County, Ohio, with headquarters at Cleveland.

New Law Permits Sterilization.—The eighty-second legislature of Maine which has just adjourned, enacted a law authorizing the performance of vasectomy and fallectomy in certain cases of mental disease and feeblemindedness. When either operation may be indicated to prevent feeblemindedness or for the treatment of mental disease, physicians having the custody of such cases may recommend to the nearest relative or guardian the advisability of the operation; if the written consent of the patient (when competent) or that of the nearest relative or guardian has been obtained, the physician shall call a council of two registered medical practitioners of not less than five years' practice, and not related to the patient, to examine the patient. If, in their judgment, the operation will prevent further propagation of mental deficiency or substantially benefit the patient, the consultants shall select a competent surgeon to perform the operation.

MASSACHUSETTS

Chiropractor Puts Policeman in Hospital.—C. O. Fraser, Taunton, arraigned, March 26, on a charge of practicing medicine without a license, was found guilty and fined $150. Fraser gave a state policeman a chiropractic adjustment for stomach trouble. The patient spent more than a month in a hospital, it is reported, recovering from the chiropractic treatment.

MINNESOTA

Instruction for Practitioners.—The University of Minnesota School of Medicine, Minneapolis, in cooperation with the Minnesota State Medical Society, has adopted a plan of taking postgraduate instruction to practitioners. They offer short traveling courses, for which clinicians will be sent out to selected rural points, one day each week for thirteen weeks. Each clinician will give a clinic and a lecture or lantern slide demonstration of from one to two hours. It is proposed that the course start the first week in June and that the same lecture or demonstration be given in two adjacent centers on consecutive days. The expenses will be minimized and equally divided between the two centers, the cost of the course amounting to only the expenses of the clinician plus a slight overhead charge for the administrative work of the university. The clinicians will receive no fees. Each center or local medical society will be responsible for the management of its own clinic, the clinical material and the place of meeting. Registration for clinics will be made on plans furnished by the extension division of the university. A tentative program has already been arranged comprising a variety of subjects.

MISSOURI

Federation Supports State Board.—At the annual meeting of the Federation of State Medical Boards of the United States, Chicago, March 10, the work of the Missouri State Board was endorsed by resolution as follows:

WHEREAS, The Missouri State Board is waging a strenuous campaign in its endeavors to clear the state of diploma mills and improve the standards of medical licensure, under very trying conditions, be it

Resolved, That the Federation of State Medical Boards of the United States in annual session assembled express its unqualified encouragement and support to the members of the Missouri State Board.

Banquet to Half Century Physicians.—The annual banquet of the Jackson County Medical Society was held, April 7, at Kansas City, in honor of members who have been in practice more than fifty years, and of former presidents of the society. The honored guests were Drs. John R. Snell, Christian A. Dannaker, William G. Morris, Charles W. Burrill and Charles B. Cathcart, in addition to nineteen former presidents. The grand total present was 198 members. The out-of-town guest was Dr. William Engelbach, who spoke on "Studies on Hair Growth and Pigmentation."

Physicians Win Injunction.—Judge Westhues of the Cole County circuit court, Jefferson City, handed down a decision, April 13, in which druggists are not required under the statutes of Missouri to file with the county clerk lists of prescriptions issued for liquor (THE JOURNAL, February 28, p. 683). The decision was made in an injunction proceeding brought by Jefferson City physicians against the county clerk and a local newspaper to restrain one from receiving lists of liquor prescriptions and to stop the other from publishing the names. Judge Westhues granted a permanent injunction restraining the county clerk from receiving the lists, and dissolved the temporary injunction against the newspaper.

NEW HAMPSHIRE

Town Votes Fund to Obtain Physician.—The citizens of Chesterfield have voted $1,000 to be expended in obtaining a resident physician. Chesterfield, having no physician, has been obliged for several years to rely on Brattleboro, five miles away, in cases of emergency.

NEW JERSEY

The Last Legislature.—The annual session of the New Jersey legislature has adjourned, and the bill presented by the Medical Society of New Jersey was not adopted. The so-called "Doctor's Title" bill failed to pass because, says the *Journal of the Medical Society of New Jersey*, of the unreasonable antagonism of two members of the house, one of whom happened to be in a position to control legislative action. This bill passed the senate by unanimous vote, and after a public hearing under the auspices of the public health committee of the house was reported favorably without amendments. The assembly bills proposing to establish a separate board of chiropractic examiners and to establish rules for the licensing of another cult by the name of naturopathy both died in committee. A bill designed to correct the present law requiring licenses to be granted without examination to ex-service men who studied chiropractic in the course of vocational training provided by the U. S. government, as finally passed, exempts from examina-

tion only such ex-service men as are residents of New Jersey but requires such candidates from other states to take examination. The bill, introduced at the instance of the state board of medical examiners, requiring every applicant for a license to practice to submit satisfactory proof that he is a citizen of the United States or has declared his intention to be, was adopted, and bills granting physicians permission to give birth control information to married persons and to authorize eugenic sterilization to prevent propagation of mental defectives were defeated.

NEW YORK

Dinner to Half Century Physicians.—The Albany County Medical Society is planning to give a dinner, April 29, at the Fort Orange Club, Albany, to members who have practiced medicine fifty years or more. There are eleven, including three ex-presidents of the state medical society.——The Rockland County Medical Society is planning a dinner in honor of Dr. William R. Sitler, Suffern, who graduated in medicine fifty years ago and is still in active practice.

Tribute to Dr. Lucien Howe.—A testimonial dinner in honor of Dr. Lucien Howe, Buffalo, was given, April 16, at the LaFayette Hotel, to celebrate his fiftieth year in the practice of medicine. A silver loving cup was presented by fellow members of the Ophthalmologic Club of Western New York, and a packet containing messages sent by friends and associates. Dr. George E. de Schweinitz, Philadelphia, former President of the American Medical Association, gave a summary of the most notable achievements of Dr. Howe. Other speakers were Dr. James W. Putnam, professor emeritus of neurology, University of Buffalo; Adelbert Moot, member of the board of regents, and Dr. Francis Park Lewis, Buffalo. Congratulatory letters were received from Professor Fuchs, Vienna; Professor Uhthoff, Breslau; Drs. Victor Hanke and Ludwig Sallmann, Vienna; Professor Tscherning, Denmark; Professor Mackay, Edinburgh; Professor Axenfeld, Freiburg, and Professor de Lapersonne, Paris. Dr. Harold W. Cowper, president, Ophthalmologic Club of Western New York, was toastmaster.

State Medical Meeting.—The one hundred and nineteenth annual meeting of the Medical Society of the State of New York will be held at Syracuse, May 12-14, under the presidency of Dr. Owen E. Jones, Rochester. The house of delegates will meet, May 11, at the Hotel Syracuse and the regular annual meeting of the society will be at the same place, May 13, at which George E. Vincent, president of the Rockefeller Foundation, will speak. The committee on scientific work has arranged a special day, May 14, for a demonstration of tuberculosis, in which the outstanding specialists will participate. The state journal says that there has never been a meeting in this country in which this subject has been so completely covered. Among the visiting speakers at this annual session will be Dr. Francis G. Blake, New Haven, Conn., "The Specific Serum Treatment of Scarlet Fever"; Dr. Charles M. Campbell, Boston, "Mental Hygiene and Its Relation to General Medicine"; Dr. Austen F. Riggs, Stockbridge, Mass., "Uses of Psychotherapy in General Medical Treatment"; Dr. James B. Herrick, Chicago, "General Survey of the Problem of the Chronic Cardiac Cripple"; Dr. George W. Crile, Cleveland, "Surgical Treatment of Malignancy"; Dr. Douglas A. Thom, Boston, "Mental Hygiene of the Child and Its Relation to Mental Stability in Adult Life," and Dr. James H. M. Knox, Jr., Baltimore, "The Part of Prevention in Pediatric Practice." At the banquet, Tuesday evening, Chancellor Flint of Syracuse University, among others, will speak.

New York City

Medical Bay in St. John's Cathedral.—On behalf of the medical profession of the United States, a fund was inaugurated, April 11, to erect a bay with stained glass windows in honor of St. Luke, "The Beloved Physician," in the Cathedral of St. John the Divine. Sculptural figures of some of the great healers from Hippocrates to Lister and stained glass scenes illustrating great events and epochs in the history of medicine will be used in decorating the bay. Dr. John Bentley Squier, Jr., New York, is chairman of the division of the medical profession.

Chiropractor an Abortionist.—Henry L. Mottard, chiropractor, whose office at 114 West Seventy-First Street is under the name of "Dr. Henry L. Green," was held without bail, April 9, it is reported, on a charge of homicide. Mottard, alias Green ,also maintains a chicken farm and fourteen-room house containing an operating room at Smithtown, L. I., where he is said to have performed an illegal operation on a patient, who died there. Mottard, according to reports, confessed to assisting at illegal operations that resulted in the birth of two babies, for one of which he received more than $100 "for board and care," and to many other illegal operations.

Funds for Renovating City Hospitals.—The board of estimate voted, April 3, to set aside incorporate stock and to reserve from the city's borrowing margin $2,660,000 for the construction, renovation and general improvement of city hospitals. The sum reserved will be apportioned as follows: hospitals under the jurisdiction of the department of health, $585,000; to be administered by the department of public welfare, $1,870,000; Bellevue and Allied Hospitals, $205,000. This action follows a long series of appeals made by scores of organizations through the State Charities Aid Association, depicting certain hospitals as "fire traps," and describing their utter inadequacy for modern demands.

Society News.—Dr. Thomas F. Reilly addressed the stated meeting of the Academy of Medicine, April 16, on "The Ultimate Cause of Most Hemiplegias"; Dr. Bernard Sachs on "The Proper Classification of the Cerebral Palsies of Early Life," and Dr. James Ramsay Hunt on "The Static and Kinetic Representations of the Efferent Nervous System in the Psychic Sphere." The program was arranged in cooperation with the section of neurology and psychiatry.——Dr. Fielding H. Garrison, U. S. Army, will address the section of historical and cultural medicine of the academy, April 30, on "Prehistoric, Primitive and Pre-Vesalian Anatomy," with lantern demonstration.——At the annual meeting of the U. S. Veterans' Bureau Medical Officers Association, New York, recently, Dr. Palmer A. Potter was elected president, to succeed Dr. Emil Boehm.——A joint session of the sections of otology, laryngology and rhinology of the New York Academy of Medicine with the section of otolaryngology of the College of Physicians, Philadelphia, was held, April 22, at the academy in New York.

NORTH CAROLINA

Old-Fashioned Barbecue.—The Fifth District Medical Society held the largest meeting in its history at the Country Club, 10 miles west of Fayetteville, April 15, the occasion being an old-fashioned barbecue in "true Southern style." Dr. R. L. Pittman, Fayetteville, was the host. Among those who presented scientific papers were Drs. James D. Highsmith, John A. MacKethan and Reese A. Allgood, Fayetteville, Dr. Nathan Hardy Andrews, Rowland, and Dr. Terry Mason of Maxton.

The Narcotic Trial at Charlotte.—The trial of the twenty-three persons at Charlotte, last week, charged with violating the Harrison Narcotic Law, resulted in convictions in almost every case. Among those convicted were Drs. Memory F. Boyles, Gastonia, Frank V. Taylor, Gaston County, and Thomas A. Smith, formerly of Charlotte, the first two receiving sentences of eighteen months each and the last a sentence of four months in the federal penitentiary at Atlanta. A dentist, A. B. Boyles, of Gaston County, also was sentenced to eighteen months.

OHIO

Health Commissioners Appointed.—Dr. Harry H. Snively, Columbus, formerly state health commissioner, has been elected health commissioner of Franklin County, and will assume his new duties, May 1, succeeding Dr. Clarence M. Valentine, resigned.——Dr. W. J. Weiser has been appointed health commissioner of Marion to succeed Dr. E. E. Lynch, and Dr. C. B. Snider has been appointed health commissioner of Lancaster to succeed Dr. C. H. Hamilton.

Visit of Canadian Health Officials.—Under the auspices of the International Health Board, four health officers from Quebec will spend five weeks in the United States visiting institutions that provide training in public health and studying health agencies. The visiting officials will be Dr. Alphonse Lessard, director, Provincial Bureau of Health; Dr. Odilon LeClerc, medical director, Laval Tuberculosis Hospital; Dr. Ernest M. A. Savard, inspector general, provincial bureau of health, and T. J. LaFreniere, chief, provincial sanitary engineering division, and they are expected to be in Ohio, April 29-May 5, to visit the Child Health Demonstration at Mansfield, the county and city health administration at Cleveland, Oberlin and Cincinnati, and the state health department at Columbus.

OKLAHOMA

Society News.—The annual meeting of the Oklahoma State Medical Association will be in Tulsa, May 12-14, under the presidency of Dr. Everett S. Lain, Oklahoma City. All the section meetings, exhibits, registration and general meetings will be at the Mayo Hotel.——Dr. Charles H. Ball, Tulsa, addressed the Rogers County Medical Society, Claremore, recently, on "Skin Versus Roentgen Ray," and Dr. William P. Fite, Muskogee, on "Bone and Joint Inflammation."——The Oklahoma County Medical Association gave a symposium on tuberculosis at its regular meeting, April 11.

PENNSYLVANIA

License Revoked.—The Pennsylvania State Board of Medical Education and Licensure suspended the license of Dr. Joseph Stanley Kowaleski, Shamokin, at its meeting, April 8.

Cult Legislation.—There have been presented to the Pennsylvania legislature this year four bills to create separate chiropractic boards for licensure, and one bill to create a board of examiners for naturopaths. The house rejected, April 7, by a vote of 80 to 113, the Evans chiropractic bill. The osteopaths have a bill to establish a separate board of examiners for osteopathic surgeons. This, the *Atlantic Medical Journal* notes, would create two standards for the practice of surgery in Pennsylvania.

Philadelphia

Bequest to Children's Hospital.—The sum of $250,000 has been bequeathed to the Children's Hospital, Eighteenth and Bainbridge streets, by the will of the late Wilson Catherwood, for the erection of such buildings, including a nurses' home, as may be deemed necessary. Should no other buildings be required, the bequest goes to the endowment fund. Fifty thousand dollars was bequeathed to the Pennsylvania Hospital also.

Emergency Fund to Fight Smallpox.—The finance committee of the city council approved, April 15, the appropriation of $10,000 to be used as an emergency fund to prevent the further spread of smallpox in Philadelphia by the temporary employment of fifteen additional medical inspectors and the purchase of vaccine and other supplies necessary. The quarantine established, April 15, in the southeastern part of the city was the twenty-third, it is reported, to have been established within the last twenty-five days.

Hospital News.—Mayor Kendrick formally opened the campaign for $1,500,000 for the Presbyterian Hospital at a dinner at the Benjamin Franklin Hotel, April 17.——The Hahnemann Hospital was placed under quarantine, April 17, by an order issued through the police department at the instance of the bureau of health on account of a patient developing smallpox.——Ground was broken for the construction of a nurses' home for St. Joseph's Hospital at Seventeenth Street and Girard Avenue, April 12, to which Harry K. Semple donated $100,000, provided the hospital raises a similar amount.——The fourth annual meeting of the Catholic Hospital Association of Pennsylvania was held at the St. Agnes Hospital, April 13.——A child guidance clinic will be held in the near future at 1711 Fitzwater Street in a building owned by the Children's Hospital, with Dr. Frederick H. Allen, resident psychiatrist, Johns Hopkins Hospital, Baltimore, in charge.——The governor signed the Heffernan bill, April 13, appropriating $1,000,000 to the department of welfare to pay for the treatment of indigent sick in hospitals not owned by the state. Payment will be made at the rate of $3 a day for medical and surgical treatment on the basis of quarterly reports submitted to the auditor general, setting forth the names of persons treated and the dates of their admission and discharge. The amount that any hospital may receive in one year is limited to $100,000.——The construction of the new Philadelphia General Hospital will begin about June 1, at about which time the transfer of the insane patients to Byberry will take place.

RHODE ISLAND

Smallpox in Rhode Island.—More than twenty cases of smallpox have been reported from Valley Falls, Cumberland, Pawtucket and Central Falls. The health office of Cumberland has ordered that all household pets in homes exposed to the disease be killed. Children unable to present certificates of vaccination are barred from the Pawtucket schools.

SOUTH CAROLINA

Personal.—Dr. Walter H. Shealy, Cherokee County health officer, resigned, March 31, to engage in private practice.

Health Commissioner Appointed.—Dr. Irving S. Barksdale of the physiology department, Medical College of the State of South Carolina, Charleston, has been appointed health commissioner of Greenville, to succeed Clarence E. Smith, D.V.S., resigned. Dr. Barksdale will take up his duties, May 1.

Anniversary Number of Journal.—The April issue of the *Journal of the South Carolina Medical Association* celebrates the twentieth anniversary of that journal. It has, as the editor states, a "new dress," gray trimmed in black. The editors of the journal have been Drs. Robert Wilson, Jr., of Charleston; Frank H. McLeod, Florence; J. Wilkinson Jervey, Greenville, and Julius C. Sosnowski, formerly of Charleston, and the secretary of the state medical association has been editor-in-chief since 1912. The journal has unfailingly supported the Medical College of the State of South Carolina, the state board of health and the state board of medical examiners in its efforts to enact medical laws, and has constantly kept before the physicians of the state the advantages of a properly supported medical organization. In this issue, which is considerably enlarged, pages are devoted to the program of the state medical association, which met at Spartanburg, April 21-23, and to photographic reproductions of the hospitals, medical buildings and other centers of that city.

TENNESSEE

Sentence Upheld by Court of Appeal.—It is reported that the sentence of two years in the Atlanta penitentiary of Dr. Abraham W. Boyd, Memphis, for violating the Harrison Narcotic Law, was upheld in the United States Court of Appeals at Cincinnati, April 6.

CANADA

Society News.—The annual meeting of the Ontario Health Officers' Association will be in the Mining Building, University of Toronto, Toronto, May 4-6. Among others, Dr. George S. Young, president, Ontario Medical Association, and Frederick L. Hoffman, Newark, N. J., and the minister of health will speak at the luncheon, at which members of the association will be guests of the Provincial Department of Health.

GENERAL

Pacific Coast Surgical Association.—Representative surgeons of the Pacific Coast met, April 11, at the Hotel St. Francis, San Francisco, and organized the Pacific Coast Surgical Association. Cities represented included Seattle, Spokane and Everett, Wash.; Portland, Ore., and Oakland, Santa Barbara, San Diego, Los Angeles, Pasadena and San Francisco, Calif. Dr. Charles D. Lockwood, Pasadena, was elected president; Drs. Stanley Stillman and Wallace I. Terry, both of San Francisco, vice presidents, and Dr. Edgar L. Gilcreest, San Francisco, secretary-treasurer. The council comprises Drs. James Tate Mason, Seattle; Harold Brunn and Philip K. Gilman, both of San Francisco; Paul Rockey, Portland, Ore., and Clarence G. Toland, Los Angeles. The next meeting will be Feb. 26-27, 1926, at Del Monte, Calif.

Price of German Books and Periodicals.—At the meeting of the Medical Library Association, Chicago, June 9-10, 1924, a resolution was adopted urging members to curtail the buying of German medical books and periodicals because of alleged discriminating charges against American subscribers, and unreasonably high prices (THE JOURNAL, July 26, 1924). The Deutscher Verlegerverein, Oct. 11, 1924, addressed a reply to the Medical Library Association in which it observed that, so far as their members are concerned, the unequal charges complained of had been abandoned before the resolution of the Medical Library Association had been passed, and that a comparison of the prices of German, English and American periodicals had shown the English ones to be higher priced than the German. The German publishers' association concludes that it was unjustly reproached. A translation of its letter is published in the *Bulletin* of the Medical Library Association (**14**:39 [Oct.] 1924-[Jan.] 1925), together with a reply, in which a special committee of the Medical Library Association expresses pleasure that German booksellers have changed their attitude

as regards prices of books sold to American customers, points out that a few German publishers not members of the publishers' association still charge exorbitant prices for medical periodicals, and that the increase in the number of volumes yearly, together with increased price per volume, prohibits many medical libraries from subscribing to these periodicals. It is urged that German publishers of medical journals should reestablish a definite basis as to the number of volumes yearly and the yearly subscription price, known in advance.

Society News.—The Medical Women's National Association will hold its eleventh annual meeting at Atlantic City, N. J., May 25-26, headquarters being at the Marlborough-Blenheim Hotel, under the presidency of Dr. Katherine C. Manion, Port Huron, Mich. The banquet for this association and headquarters for all women physicians attending these meetings will be at the Ambassador Hotel, May 27.——The annual meeting of the American Psychoanalytic Association will be at Richmond, Va., May 12, under the presidency of Dr. Isador H. Coriat, Boston. Among those on the program are Drs. Adolph Stern, Clarence P. Oberndorf and Gregory Stragnell, all of New York; Drs. Trigant Burrow and Harry S. Sullivan, both of Baltimore, and Dr. Karl A. Menninger, Topeka, Kan.——The annual meeting of the American Association of Hospital Social Workers convenes in Denver, June 8-16, at the Shirley-Savoy Hotel. Among other speakers will be Dr. Lawson G. Lowrey, director, Child Guidance Clinic, Cleveland.——The National Academy of Sciences will hold its annual meeting in Washington, D. C., at the National Research Council Building, Twenty-First and B streets, April 27-29. Among many scientific papers to be presented will be "Measurement of the Circulation in Man," Yandell Henderson, Ph.D., and Howard W. Haggard, New Haven, Conn.; "Cell Respiration," Frederick G. Novy and M. H. Soule, Ann Arbor, Mich.; "The Internal Secretion of the Parathyroid Glands," James B. Collip, Ph.D., Edmonton, Alta., and "The Last Test of the Einstein Theory," Albert A. Michelson, Ph.D., Chicago.——The National Health Council will hold an American Health Congress at Atlantic City during the week of May 17, 1926. The object will be to give health workers from every part of the country a broad view of the public health movement. The various associations that are members of the National Health Council will participate in the congress, and it is expected that leading health associations of Canada, Mexico and elsewhere will cooperate. The steel pier has been engaged for headquarters, a part of which will be used for exhibits.

New Hospitals for Indians.—Plans for the construction of several new hospitals, and additions to present hospitals on Indian reservations during the coming year, are announced at the Bureau of Indian Affairs. A general hospital will be built on the Klamath reservation, Oregon, and an additional building at the Fort Lapwai Sanatorium, Fort Lapwai, Idaho, will be constructed, which will provide a bed capacity for fifty patients besides the 110 patients already being cared for there. A new general hospital will be constructed on the Fort Peck Indian reservation, Montana. During the fiscal year 1925, four new hospitals are being established: a sanatorium school for incipient tuberculosis patients among Indian children, with a bed capacity of eighty, at Shawnee, Okla.; a tuberculosis sanatorium for the Chippewa Indians at Onigum, Minn.; a school hospital at the Sequoyah Indian Orphan Training School at Tahlequah, Okla., and a school hospital with a bed capacity of sixty patients now under construction at the Indian Agricultural School at Chilocco, Oklahoma. The establishment of a temporary trachoma hospital at Albuquerque, N. M., for the treatment of Indians has been authorized at the Interior Department in line with the campaign started last year, which has had considerable success; Indians from practically all the reservations in the Southwest have attended the clinics and received treatment. Plans for a new Indian hospital and sanatorium on the Pyramid Indian reservation at Nixon, Nev., are being prepared. An appropriation of $30,000 was included in the Interior Department act for the next fiscal year to cover the initial cost of buying the necessary equipment and establishing the hospital on an operating basis. The new institution to provide medical treatment and care for Indians living on the reservation and in the vicinity will not be opened until after July 1. The buildings of the Pyramid Lake Indian Boarding School will be used so that it will not be necessary to erect new structures for the hospital. There are eight frame buildings in good repair. The architect of the Bureau of Indian Affairs was detailed to look over the proposed site during the past year and it is believed that the plant can be reconditioned for not to exceed $5,000. This will leave approximately $25,000 for purchasing equipment, employing personnel, and providing for patients after the institution is opened. There are a large number of Indians residing in this vicinity whom heretofore it has been necessary to hospitalize in distant institutions. This will avoid the expense of transporting patients long distances.

Bequests and Donations.—The following bequests and donations have been announced recently:

The Society for the Relief of Ruptured and Crippled, $3,000; the Wartburg Orphan Farm School, $6,000; the United Hebrew Charities, the Hebrew Orphan Asylum, the Home for Aged and Infirm Hebrews, the St. Francis Hospital and the New York Institution for the Education of the Blind, each $2,000, by the will of the late Louis T. Leymeyer, New York.

Society for the Prevention of Cruelty to Children, and the Industrial Home for the Blind, New York, each $10,000, by the will of the late Walter C. Humstone, Brooklyn.

Solomon and Betty Loeb Memorial Home for Convalescents, New York, $10,000, by the will of Isaac Newton Seligman.

St. Luke's Hospital, $5,000, under the will of the late Louisa Josephine Taylor.

The Fifth Avenue Hospital, New York, $5,000, by the will of the late Cordelia L. Babcock.

Babies' Hospital and the Home for Crippled Children, Newark, N. J., each $100,000; the Society for the Relief of Aged Women and the Hospital of St. Barnabas, each $50,000, and the Bureau of Associated Charities, $10,000, under the will of Mrs. Effie McIntire.

Memorial Hospital, Mattoon, Ill., $5,000, by the will of Lewis Lehman.

The Home Hospital, Lafayette, Ind., $5,000, by the will of John D. Gougar.

The Montreal General Hospital, Montreal, $10,000; the Hospital for Sick Children, Toronto, $5,000, and the Children's Memorial Hospital, Montreal, $10,000, to establish beds in memory of his father, mother and son, respectively; the Crippled Children's School, Montreal, $3,500; the Foundling Hospital, $2,000, and the Notre Dame Hospital, Montreal, $2,000, by the will of the late James Carruthers.

The Memorial Hospital, New York, $5,000; the Servants for the Relief of Incurable Cancer, $5,000; the New York State Charities Aid Association, $10,000, and the Committee for Assisting and Providing Situations for Destitute Mothers with Infants, $1,000, by the will of the late Miss Helen C. Butler, New York.

The Society for the Relief of the Destitute Blind, New York, $10,000, and the Newport Hospital, Newport, R. I., $5,000, by the will of Mrs. Martha Marshall Wysong, New York.

The Federation of Jewish Charities, $1,000, by the will of the late Isaac Goldstein.

By the will of the late Mary W. Swan, Plainfield, N. J., $9,000 to St. John's Guild to endow cribs in the Seaside Hospital.

St. Joseph's Hospital, Yonkers, N. Y., $1,000; to Queens Daughters' Day Nursery, Yonkers, N. Y., $500, and to the Homeopathic and Maternity Hospital, Yonkers, N. Y., $250, by the will of the late James McCann.

The New York Association for Improving the Condition of the Poor and the American Red Cross, $1,000 each, and to the Eastside House Settlement, $500, by the will of the late Oliver J. Wells, New York.

The House of Calvary for Incurable Cancer, the Mission for the Protection of Homeless and Destitute Children, $500 each; to the Home for Aged Little Sisters of the Poor, $100, and a residuary amount to the Dominican Sisters of the Sick Poor, by the will of Margaret Dunn.

The Orthopedic Hospital, New York, and the Newport Hospital, Newport, R. I., $5,000 each, by the will of the late Mrs. Louise Ward McAllister Lewis.

The Beth Israel Hospital, New York, $2,000; to the Montefiore Hospital, New York, $5,000; to the Mount Sinai Hospital, New York, $5,000; to the Jewish Hospital, Philadelphia, $1,000, and to the Tuskegee State Normal Industrial Institute, Tuskegee, Ala., $500, by the will of the late Louis S. Stroock, New York.

The Northern Westchester Hospital Association of Mount Kisco, $20,000, by the will of the late Mrs. Dorcas Knox Braistead, New York, and one seventh of the residuary estate to the Manhattan Eye, Ear and Throat Hospital, New York, White Plains (N. Y.) Hospital, Northern Westchester Hospital, and the New York Association for the Blind.

FOREIGN

Congress on Sexology.—The Italian Society for Study of Sexual Questions holds its annual meeting at Turin the last of May, in connection with the meeting of the Italian Lega contro il pericolo venereo, and an international conference on the historical origin of syphilis. The speakers at the latter are to be Profs. H. F. Sigerist, Zurich; Barduzzi, Siena, and Castiglione, Trieste. The secretary for these meetings is Dr. Prof. A. Fontana, Via Porta Palatina 1, Turin. The Associazione professionale dei dermosifilografi italiani holds its annual meeting there the same week.

The "Island" of the Munich Weekly.—We note, as evidence of an attempt at return to prewar conditions, the resumption by the *Münchener medizinische Wochenschrift* of its burlesque edition. This used to be an annual institution, but the experiment now is to have a weekly "island" on some advertising page where the readers can lounge and obtain the humor vitamins needed for a well balanced diet. Among the contributions is a motto suggested for the office wall,

Dank ist des Arztes schönster Lohn—
Doch leben kann er nicht davon.

Another verselet is to the effect that a hen lays her egg and cackles, and that is the end of it; only a scientist can lay the same egg twenty-five times.

World Federation of Education Associations.—The first Biennial World Federation of Education Associations will be held in Edinburgh, Scotland, July 20-28, under the presidency of Augustus O. Thomas, Ph.D., Augusta, Maine. Every country in Europe and the Orient will send representatives. This movement originated at Oakland, Calif., in 1923, when educators from other countries met with the National Education Association, and resulted in the formation of a World Federation. The Scottish National Committee desires therefore that the largest number of representatives hail from America and Canada. Steamships have been chartered. Traveling arrangements can be made at any office of the American Express Company, which has been elected official transportation agent. In order that accommodations may be arranged, the date of arrival in Edinburgh should be submitted to the Joint Secretary, World Federation of Education Associations, 47 Moray Place, Edinburgh.

Deaths in Other Countries

Dr. **John Cleland,** emeritus professor of anatomy, University of Glasgow, aged 89.——Dr. **Mary D. Sturge,** physician to the Birmingham and Midland Hospital for Women, London, first provincial president, Medical Women's Federation, co-author of "Alcohol and the Human Body," March 14, aged 72.——Dr. **V. Janovsky,** professor emeritus of dermatology and syphilology at the Charles University, Prague, aged 78.——Dr. **Pédebidou,** Paris, senator, member of the council of the Assistance Publique, killed in a railroad accident.——Dr. **J. G. Mönckeberg,** professor of pathology, Bonn, and editor of a *Zentralblatt*, aged 47.——Dr. **Albert Mahaim,** professor of psychiatry, Lausanne, aged 58.——Dr. **F. Morin,** Leysin, president of the International Union Against Tuberculosis.——Dr. **V. Pensuti,** Rome, formerly editor of the *Policlinico* and assistant to Baccelli.——Dr. **Silverio Hernández,** Madrid, otolaryngologist to the public hospitals.——Dr. **E. C. Basadre,** Lima, senator and formerly member of the cabinet, aged 78.——Dr. **Friedrich,** at one time professor of otolaryngology at Kiel, aged 57.

CORRECTION

Hospital Library.—The Norwegian-American Hospital, Chicago, was not accredited with a medical library in the list of hospitals approved for internship (THE JOURNAL, March 28, p. 972). This hospital has a library on which from $500 to $700 is spent each year.

Government Services

Examination for Regular Army

An examination for appointment in the medical corps of the army will be held at designated army posts, May 4-8, 1925. The examination will include the following subjects, and a general average of 80 per cent. will be necessary to qualify: anatomy; surgery; practice of medicine; physiology and histology; materia medica and therapeutics, and obstetrics and gynecology. Applicants must be citizens of the United States between 22 and 31½ years of age, graduates of a recognized medical school, and must have satisfactorily completed a year's clinical training in a recognized hospital after graduation. Successful candidates will be commissioned first lieutenants, assigned to active duty, and given a course of instruction of about a year at the Army Medical School, Washington, D. C., and the Medical Field Service School, Carlisle Barracks, Pa. The initial pay of a first lieutenant is $2,000 per annum, with adequate allowance in addition thereto for quarters, heat and light, and a ration allowance for officers with dependents of $36 a month, and without dependents, of $18. Officers, in addition, receive baggage allowance (including packing and shipping), adequate mileage allowance for traveling under orders, and transportation for dependents. Officers receive increases in pay of 5 per cent. for each three years' service and, on promotion to captain, after three years' service; to major after twelve years' service; to lieutenant colonel after twenty years' service, and to colonel after twenty-six years. Physicians now serving internships in recognized hospitals are invited to appear for this examination, and if found qualified will be appointed on completion of the fifth, or clinical, year of training. Applications should be submitted to the Adjutant General of the Army, Washington, D. C.

Foreign Letters

LONDON

(From Our Regular Correspondent)

April 4, 1925.

New Regulations for the Handling of Meat

The public health meat regulations of 1924 are now in effect. The intention is to secure such handling of meat as shall protect it from any contamination. The definition of the term "meat" is so wide that it must involve shopkeepers in considerable new responsibilities. "Meat" is defined as the flesh of cattle, swine, sheep or goats, including bacon and ham and edible offal and fat, that is sold or intended for sale for human consumption, and "animal" means any animal from which meat is derived. Thus lard, margarin and other fats, preserved meats, bacon, hams and sausages come within the regulations.

The regulations provide that every person who conveys or causes to be conveyed any meat in a vehicle: (*a*) Shall cause to be kept clean the inside and covering of the vehicle, the receptacles in which the meat is placed and such parts of any slings or other implements or apparatus used for loading or unloading as come into contact with the meat or its covering. (*b*) If the vehicle is open at the top, back or sides or if any other commodity is being conveyed therein, shall cause the meat to be adequately protected by means of a clean cloth or other suitable material. (*c*) Shall not permit any live animal to be conveyed in the vehicle at the same time as meat.

A person engaged in handling or transport of meat: (*a*) Shall not permit any part of the meat to come into contact with the ground. (*b*) Shall take such other precautions as are reasonably necessary to prevent the exposure of the meat to contamination. It is further provided that every person who employs another to carry meat in or about a market or other place in which meat is sold wholesale or in or about any place wholly or mainly used for the storage of meat before it is distributed to retailers shall cause such person while so occupied to wear, and every person while so occupied shall wear, a clean and washable head covering and overall.

Regarding slaughterhouses, it is required that no articles shall be stored in any slaughterhouse except such implements, appliances, receptacles and other articles as are required for the slaughter of animals and processes directly connected therewith, including the dressing, hanging and storage of carcasses, the cleansing of the slaughterhouse, and the removal of refuse. No person shall blow or inflate with his breath, or in any other manner likely to cause infection or contamination, the carcass or any part of the carcass of any animal slaughtered for human consumption. In future, shopkeepers will have to adopt measures to protect food from contamination. No refuse or filth must be allowed in any room where meat is stored, and the walls and ceilings of the room must be cleansed as often as necessary to keep them in a proper state. Precautions must be taken to guard against flies, and against mud being splashed, or dust blown, on food.

The Distribution of Radon

An important development of the scientific work of the Middlesex Hospital has taken place. In what will now be known as the Middlesex Hospital Radon Center the radium emanation (radon) has been purified, condensed, and confined in tubes called "seeds." It has been necessary to install an expensive plant, which the hospital has done with the help of the Medical Research Council. Until it was proved possible to capture radon and bottle it for distribution, the

Middlesex Hospital was compelled, in the interests of its important cancer wing and its extensive research work, to husband its stock of radium and refuse to part with small doses, in spite of the fact that it held the largest individual stock of any hospital in the world. After exhaustive trial, the Middlesex Hospital is now in a position to offer to supply these "seeds" to other hospitals.

The possibilities for the treatment of disease in this method of distributing and applying radium are great. By capturing the emanation which would otherwise be wasted, it is now possible to multiply thousands of times the curative value of any given quantity of radium. The stock of radium used in the radon center amounts to about a gram, and is estimated to be worth between $40,000 and $50,000. It is kept in a block of lead weighing a ton, contained in a safe. The center of the block is closed by a sort of swing door of lead, which resembles the breech-block of a heavy gun. The radon center also includes a laboratory in which portions of tissue that have been exposed to the action of radium are prepared for microscopic examination.

Glass Permeable to the Ultraviolet Rays

Lecturing at the Royal Institution on "The Biological Action of Light," Mr. Leonard Hill produced three types of glass which are permeable to the ultraviolet rays, now known to be so valuable in the prevention of disease. Since one of these is low priced, it may be possible for even the poorest hospital to use it. It is necessary to have this glass only in the upper parts of the window, but care has to be taken to keep it very clean, as the smoke-polluted air of our cities quickly clogs up the glass, which then cuts off the ultraviolet rays. This glass is being tested in a London hospital. Mr. Hill hopes that some windows in every ward of our hospitals, nurseries and schools will be so glazed that advantage may be taken of every ray of sunlight that can struggle through our fog and smoke laden atmosphere.

Memorial to Sir William Macewen

A good response has been made to an appeal for funds to establish a memorial to the late Sir William Macewen. It will be applied to three main purposes: 1. The provision of a bust to be presented to the Glasgow University and a replica for Lady Macewen. 2. The endowment of a Macewen memorial lectureship, to deal with some surgical subject, and to be given annually or biennially. 3. The foundation of a Macewen medal or prize in surgery, to be awarded annually. To achieve these three objects, the committee finds that $15,000 will be required. The amount so far obtained is $7,750. Among foreign subscribers are: Prof. Harvey Cushing of Baltimore, Professor Rovsing of Copenhagen, Professor Hartmann of Paris, Dr. W. W. Keen of Philadelphia, Professor Alessandri of Rome, Dr. George W. Crile of Cleveland, and Professor de Quervain of Berne.

Boxer's Death in the Ring

An inquest has been held on the body of a boxer, aged 21, who died suddenly after a contest. The evidence showed that the length of each round was two minutes of boxing, with one minute interval. At the end of the fifth round his opponent was half a point in front. The boxing had been very fair on the part of both participants. In the sixth round they had been boxing half a minute when the referee stopped the fight. The decedent appeared to hang on to his opponent. At that point the fight seemed tame, an exhibition sort of affair. All through it was a very fair contest. The decedent looked surprised at his stopping the fight, but shook hands with his opponent and proceeded to his corner, walking across the ring. As he did so he was seen to hold his side, to sink gradually to the floor, and to roll over. The referee went to him and massaged his heart, but he showed no signs of life. There was no breaking of any of the ordinary rules of boxing in the match and no signs of anger on the part of either boxer. There was no knock down blow in the match.

Dr. R. M. Bronte, the government pathologist, made a necropsy. He found two or three little bruises on the body of an external character and of no particular moment. The skull and brain were normal and the heart weighed 11 ounces (312 gm.), the normal weight. Death he considered due to reflex inhibition of the heart as the result of a blow or blows. He knew of the similar death of a man who had had a knock in the same spot by another man's elbow. Similar deaths had also occurred in the football field. The coroner said that in view of the evidence it was difficult to see how a charge of manslaughter could be brought, and the jury returned a verdict of accidental death.

JAPAN

(From Our Regular Correspondent)

March 24, 1925.

The Red Cross Chapter to Disband

The Japan Chapter of the American Red Cross will be dissolved soon, according to a decision made at a meeting of the executive committee in Tokyo, March 18. The American ambassador, Mr. Edgar A. Bancroft, presided over the meeting as honorary chairman. Among others who attended were Major Philip Faymonville, military attaché, Prof. John T. Swift, Mr. John R. Geary and Prof. Ernest Clement. A resolution suggested by Professor Swift to the effect that the remainder of the funds, amounting to about $7,500, should be turned over to the Yokohama General Hospital to aid in its campaign for the reconstruction of the building which was destroyed in the earthquake, instead of being given to the American association for a general relief distribution, was adopted. The passing of the chapter will cause deep regret to many Americans in Japan. Word was received late last year from the national headquarters that, in accordance with a decision reached by the national committee, all foreign chapters were to be closed.

Pharmacy Bill in the Diet

The much disputed pharmacy bill, with minor amendments, was adopted by the lower house special committee at a meeting, March 23. At the general session, March 15, Dr. T. Nakahara, a member of parliament, in criticizing the bill, declared that it empowered certified pharmacists to sell drugs without a physician's prescription, although medical practitioners are prohibited by Section 5 of the Medical Practice Law giving prescriptions unless the patient has been previously examined by a general practitioner. Home Minister Wakatsuki, whose chief adviser when the bill was drafted was the Central Health Society, stated that the government intends the bill to help people in inconvenient localities to get medical attention.

Tokyo Children Suffer from Various Maladies

According to a report of the Health Section of the Tokyo Municipality, based on the examination of pupils at several schools, there is an increase in the number of the children suffering from minor ailments, such as skin diseases and undernourishment. The increase in sickly children is said to be due largely to lack of proper housing facilities resulting from the earthquake of 1923.

Antituberculosis Day

March 27 has been set apart as Antituberculosis Day by the Japan Federation for the Prevention of Tuberculosis, and the whole country is now holding an antituberculosis week

in order to spread knowledge concerning the prevention and cure of consumption. In Japan, in every 10,000 persons, there are 14.8 patients suffering from the disease, while in England, 8.9, in Italy, 12.7 and in Germany, 13.2. Our surprisingly high rate has a tendency to increase year by year. Japan's death roll from tuberculosis numbers 85,000 annually, and it is ascertained that infant mortality in Japan, which is said to be the highest in the world, is largely due to this disease.

PARIS

(From Our Regular Correspondent)

April 1, 1925.

The Results of Antituberculosis Prophylaxis—The Separation of Young Children from Tuberculous Parents

M. Léon Bernard and his collaborators, R. Debré and M. Lelong, recently presented before the Academy of Medicine the results secured by removing children from homes in which one or both parents were tuberculous and placing them in healthy family surroundings. The Oeuvre de placement familial des tout petits, the society that finds homes for young children from tuberculous families, has been functioning for nearly five years. It was founded by M. Léon Bernard with the aid of public and private contributions. Its functioning presupposes the existence of several societies acting in harmony. The Consultation du dispensaire Léon Bourgeois, at the Laënnec Hospital, affords an opportunity of discovering tuberculous pregnant women. This consultation center is associated with the Service social des hôpitaux and with the Services d'accouchement, organized in order that infants might be separated from tuberculous mothers immediately after birth. Thus antituberculosis prophylaxis becomes prenatal in its scope.

At the Laënnec Hospital there are also a special consultation center and a crèche which permit the discovery and observation of children born of tuberculous parents and who are exposed to infection or are already infected. Furthermore, the society has seven centers in Sologne for the home placement work, all organized under excellent conditions.

Professor Bernard has made a study of the children placed in these homes in comparison with children whom the society was unable to accept.

The first class considered includes children born of tuberculous parents and separated from them before infection had taken place. Of the total number of 265 children, 123 were taken from the parents at birth and 142 at a later period.

The weight of these children at birth was normal (around 3 kg.). Their growth is considered in two distinct periods. During the first period, which extends up to 18 months of age, the child is inclined to be somewhat backward in growth. This hypotrophy (less marked, moreover, for the children that were not separated at birth from their mother) becomes less and less as they get older, and disappears entirely at the age of from 12 to 18 months. It corresponds to the difficult period of artificial feeding and disappears as soon as it is possible to substitute a more general diet for an exclusive milk diet. From this time on, the children grow normally, and at the age of 4 their weight is equal to or greater than the normal weight. Their resistance to the diseases of childhood is normal. In not a single child was congenital or acquired tuberculosis observed. In one child the cutireaction changed from negative to positive, but there was no perceptible clinical manifestation of the disease. These children show, therefore, no special susceptibility to tuberculosis. However, there is inevitably an increased mortality among these infants thus protected against infection from tuberculosis: The increase is especially observable during the first three months. The mortality varies in different groups of children. For 1923, Couvelaire reported in a group of sixty-one children separated from their tuberculous mother a mortality of 38 per cent. for the first three months. The year following, in a group of children near-by, the mortality for the first three months was only 13.8 per cent. Forssner, under similar conditions, noted a mortality of 12 per cent. Sometimes it is an ordinary disease, such as hereditary syphilis, bronchopneumonia or an infectious disease, that causes death; but, as a rule, the child presents merely a progressive decline ending in death. There is no question of congenital tuberculosis or of any disease due to environment, or any special susceptibility that the new-born had inherited from his tuberculous parent. Bernard thinks that the conditions surrounding artificial feeding are alone responsible for the rather high mortality. The separation from the mother and the rearing of the children in groups constitute conditions that are capable of improvement.

After the third month, the mortality rate drops rapidly until it reaches 5.7 per cent., the usual rate for normal children of that age. These facts constitute further evidence for the view that tuberculosis is not hereditary and that children born of a tuberculous mother, instead of being constitutional inferiors, are, on the contrary, normal human beings which, if placed in good surroundings and under good conditions, develop in an entirely satisfactory manner.

The second category of children includes those who became infected while in the parental home. These children were not separated from their infected parent (or parents) to prevent infection, for that had already occurred, but to arrest the infection at a stage in which there was a chance of its remaining or becoming discrete and developing into a slight tuberculous lesion that would prove curable and not progressive. These children were carefully selected after an adequate period of observation—frequently carried out at the crèche of the Laënnec Hospital. Only such children were retained as seemed likely, in view of the short period of exposure and the lack of intensity of the infective contact, to present only a discrete infection. In these children, moreover, the incubation of the disease had been very slowly revealed.

The children who were carefully selected, when protected against infection, remained, in the majority of cases, in good health. It may therefore be affirmed that there exists, even in infants, a form of tuberculosis of favorable evolution and having such a tendency to heal that an infected child is outwardly in no respect different from a normal child of the same age.

The second category included 171 children. At the age of 6 months, these children were underweight and were notably hypotrophic. This inferiority became less and less as time went on, and after the children were 18 months old they had recovered their normal weight and maintained it. The resistance of these children to infectious diseases was absolutely normal. They are in no respects different from children born of healthy parents. These facts prove that children, though infected, if removed from the source of infection, carefully selected and reared under good hygienic conditions, may develop normally. Nevertheless, in seventeen of the 171 children with a positive cutireaction, tuberculosis progressed and in thirteen instances caused death (pulmonary, meningeal, osteo-articular tuberculosis). The mortality from tuberculosis in the 171 previously infected children was, therefore, only 7.6 per cent.

Now if one investigates the fate of the infected children left in contact with their tuberculous parents, it will be seen that the evolution of the disease is quite different and the mortality much higher.

Sixty-six infected children left with their parents serve as veritable controls. Some of these children were not in the proper condition to be accepted. Others had been accepted

by the society, but their parents would not consent to their being taken out of their homes. Of these sixty-six children, fifty-four, or 82 per cent., succumbed very soon to the infection, most of them before the end of the first year. This high mortality rate is in marked contrast to the low rate of 7.6 per cent. (noted above) for the deaths from tuberculosis among the children for the care of which the home-finding society became responsible.

In regard to thirty-seven of the sixty-six infected children left in their homes the living conditions could be carefuly studied; it was noted, on the one hand, under what hygienic conditions the child had been reared, and, on the other hand, how long the duration of the infective contact had been.

For twenty-one of the children the contact with the infective patient had continued; all these had died no matter what the hygienic conditions had been under which they had lived. In the case of the sixteen other children, the contact had ceased with the death of the patient. Of these sixteen children fifteen had survived irrespective of their living conditions.

These facts prove that children removed at birth from a tuberculous environment behave later as absolutely normal human beings. As for the children who have already become infected through contact with a tuberculous parent, only separation from the parent can prevent the infection from progressing to a fatal issue. We may therefore conclude that the evolution and the arrest of tuberculosis in the infant or the young child depend primarily on the presence or absence of the tuberculous contact and likewise on the persistence or the suppression of such contact.

BERLIN

(From Our Regular Correspondent)

March 28, 1925.

The German Institute for Psychiatric Research in Munich

From an address by Geheimrat Kraepelin on the German Institute for Psychiatric Research it appears that the continued existence of the institute, which lost its endowment fund as the result of inflation, has been assured by its amalgamation with the Emperor William Society for the Promotion of Science. The institute will continue to receive aid from the Bavarian government and will be supplied with further funds from the federal government. Bavaria has guaranteed the institute the sum of 20,000 marks annually in return for the use of a specified number of laboratory desks. Kraepelin thinks the institute should be housed in a separate building, since the Psychiatric Clinic, in which it is temporarily located, needs all the available space for its own activities. Dissecting rooms are soon to be added to the sanatoriums at Eglfing and Haar. The organization of a department for researches on metabolism is also planned. The funds for this purpose may be furnished by the Rockefeller Foundation. Dr. James Loeb, who was the founder of the institute and who, on that account, was made doctor honoris causa, has recently furnished the funds for a scientific study tour in the United States. Professor Plaut, the director of the institute, plans to begin this tour soon. The institute has accommodations for thirty-one, and during the past year there have been twenty German and eleven foreign investigators doing research work in the institute.

Death of Professor von Wassermann

During recent months, German medicine has suffered an unusually large number of losses, and now again in the death, March 16, of Professor von Wassermann, director of the Kaiser Welhelm Institute for Experimental Therapy in Berlin, a further weakening of the line must be recorded. Wassermann had been confined to his bed since November of last year. His illness began with asthmatic attacks, the nature of which was at first not quite clear. However, it gradually became evident that the principal difficulty was arteriosclerosis of the heart, as a consequence of which his attacks became more and more severe. The conclusion was reached that a gouty constitution furnished the basis for the early development of the fatal affection, and it is assumed that therein lies the explanation for the involvement of the kidneys. The mode of living of the decedent may possibly have contributed to his early death, for he was indefatigable in his devotion to laboratory research work and doubtless overexerted himself at times.

The significance of his researches in the field of medicine, I think I may assume, is known to every physician the world over. The Wassermann test for the diagnosis of syphilis has become the common property of all physicians. Whether or not it is employed everywhere under this name is not a matter of prime importance. It is true that the basis for this test lay in scientific findings established by Bordet, and that the serologist Bruck and the dermatologist A. Neisser had a part in working out the practical method; but it is equally true that Wassermann is entitled to the chief credit for the utilization and extension of the scientific bases. The judgment of the part played by Wassermann in the evolution of the test that bears his name marks the estimation of his life work. His importance is by no means as great as that of his outstanding teachers Robert Koch and Paul Ehrlich. As an original investigator he was not in the same class with them, but his genius lay rather in developing further those lines of research that others had opened up and in extending in various directions the discoveries of others, especially with a view to utilizing them in a practical way. He did not always succeed in securing as good results as he did with his syphilis test. His tuberculosis test, which was built up on the same premises, was announced a few years ago but has not been found fully reliable, although it also, no doubt, has a good nucleus. Possibly, if he had lived, he would have succeeded eventually in placing also this test on a secure basis and made it utilizable in regular practice. Possibly other investigators may succeed in completing the task that he began. Nor did his attempts to cure cancer by chemotherapeutic means lead to satisfactory results. It looked for a time very promising when he treated with eosin-selenium mice that had been artificially infected with cancer, the tumors being filled with the dye and becoming softened by its action. But the trials of the drug on human subjects soon showed it to be unsatisfactory and not devoid of danger.

Although Wassermann began his career as an assistant to Robert Koch, he was, in reality, to an even greater extent a pupil of Ehrlich. It is only natural, therefore, that his researches should have been chiefly in the field of immunology. The first report on his researches, which he had undertaken in collaboration with Professor Proskauer, another assistant of Koch, was published in 1891 in the *Deutsche medizinische Wochenschrift* and dealt with the toxalbumins that are produced by diphtheria bacilli. His second article, published in the same journal in 1892, took up the subject "Immunity and Toxin Fixation." However, the first report of his researches to attract wide attention among scientific investigators was his treatise published in 1898, in which he proved that the action of the toxin eliminated by tetanus bacilli results from its chemical union with the cells of the central nervous system. The part he played in the development of the biologic albumin test, by the means of which it has become possible to distinguish the albumins of various animals, a result that is of especial importance in legal medicine, is unquestioned; but the chief credit for the discovery of this test doubtless belongs to the bacteriologist Professor Uhlenhuth. Furthermore, his studies on

vaccination against typhoid, cholera and cerebrospinal meningitis must not be forgotten.

One special and attractive feature of all of Wassermann's publications was his unusually clear style, by virtue of which he made the most difficult problems intelligible even to those unfamiliar with his specialty. I still remember the impression he made on me when, some decades ago, we were gathered at a session of the Berliner Verein für innere Medizin to hear Paul Ehrlich expound his side-chain theory. 'I recall that I did not get a clear idea of the theory until Wassermann, with characteristic frankness and humor, rose to open the discussion and expressed his intention of making intelligible to the audience what Ehrlich (who was notoriously weak as an expositor) had just finished presenting. It was this clearness of exposition that gave Wassermann his power over his hearers and readers.

His last treatise is probably the article that he published in No. 49, 1924, of the *Deutsche medizinische Wochenschrift*, which constituted the close of Volume 50 of that journal. In this article he gave, in keeping with the program of the jubilee number, a complete survey of the progress of microbiology and immunology during the last fifty years; and any one who desires by the reading of a few compactly written pages to gain a clear idea of this period cannot do better than to read that article. Thus, Wassermann published his last article in the same journal in which he published the first and most of his articles, following in this the example of his great teacher Robert Koch.

Death of Professor Mönckeberg

The death of Professor Mönckeberg, March 22, at the age of 47, has been announced. He was an ordinarius and director of the Pathologic Institute of the University of Bonn. Beginning his career in 1898, he served successively as an assistant to Goltz in Strasbourg, to E. Fraenkel in Eppendorf (near Hamburg), to Weigert in Frankfort-on-the Main, and, after 1904, to Bostroem in Giessen. In Giessen he was granted *venia legendi*, and later was appointed professor extraordinarius. From 1913 to 1916, he was a member and professor of the Düsseldorf Akademie für praktische Medizin, having succeeded Lubarsch, and in 1916 he was called to the University of Strasbourg as sucessor to Chiari. In 1919, Mönckeberg was appointed to the chair of pathology, as the successor of Baumgarten, and, two years later, became head professor in the University of Bonn, as the successor to Ribbert. Of his works I will mention: Untersuchungen über das Atrioventrikularbündel im menschlichen Herzen, 1908; Herzmissbildungen: ein Atlas angeborener Herzfehler usw., 1912; Pathologie der Gewebe im Kindesalter (in the compendium of Brüning and E. Schwalbe), 1912; Atrophie und Aplasie (in the compendium of Krehl and Marchand), 1915, and Die anatomischen Grundlagen der normalen und pathologischen Herztätigkeit, 1919.

Marriages

HERMAN WILLIAM HUNDLING, Memphis, Tenn., to Miss Rebecca Burnett of Birmingham, Ala., March 10.

MAURICE F. LAUTMAN, Hot Springs National Park, Ark., to Miss Minnie Edelstone of Chicago, April 6.

WILEY TERRELL SIMPSON, Eufaula, Ala., to Miss Emma Elizabeth Rish of Coleman, Ga., February 28.

THOMAS D. MOORE to Miss Ruth Frazer Brown, both of Memphis, Tenn., March 18.

STEPHEN R. COLEMAN, New Orleans, to Miss Irene Hale of Tampa, Fla., April 6.

LOUIS F. BOYD to Mrs. Lena H. Graper, both of Memphis, Tenn., March 13.

Deaths

John Alfred Wheeler ✠ Lincoln, Ill.; Northwestern University Medical School, Chicago, 1896; formerly member of the state legislature; medical director of the Lincoln State School and Colony for Feeble-Minded, where he died, April 3, of coronary thrombosis, following bronchopneumonia, aged 53.

Eleanor C. Jones ✠ Philadelphia; Woman's Medical College of Pennsylvania, Philadelphia, 1887; professor of pediatrics at her alma mater; member of the Philadelphia Pediatric Society; on the staff of the Woman's Hospital; aged 62; died, March 23, of pneumonia.

Edward P. Rockhill ✠ Major, U. S. Army, retired, Denver, Colo.; Medico-Chirurgical College of Philadelphia, 1895; commanding officer, U. S. Army General Hospital, Fort Bayard, N. M., during the World War; aged 52; died, March 11, at the Fitzsimons General Hospital.

Robert Conrad Rind ✠ Springfield, Ohio; University of Maryland School of Medicine, Baltimore, 1897; Spanish-American and World War veteran; on the staffs of the Ohio Masonic Home and the Springfield City Hospital; aged 52; died, March 23, of heart disease.

James A. Hart ✠ Colorado Springs, Colo.; Medical Department of Columbia College, New York, 1873; member of the American Climatological and Clinical Association; aged 75; died, March 20, at the Glockner Sanatorium and Hospital, following a long illness.

Edward Everett Hoit, Detroit, Minn.; University of Michigan Homeopathic Medical School, Ann Arbor, 1878; Rush Medical College, Chicago, 1885; member of the Minnesota State Medical Association; aged 70; died, April 4, of cerebral hemorrhage.

William Henry Zabriskie ✠ Glen Cove, N. Y.; Medical Department of Columbia College, New York, 1885; aged 64; died, March 31, at the New York Post-Graduate Medical School and Hospital, following an operation for carcinoma of the pancreas.

Joseph Christopher Guinan, New York; University and Bellevue Hospital Medical College, New York, 1899; aged 52; died, March 22, at Hartford, Conn., of medullary carcinoma of the humerus, with metastasis to the spinal cord.

Edward Remy, Jr. ✠ Mansfield, Ohio; Cleveland College of Physicians and Surgeons, 1903; formerly county health officer; aged 43; died, March 18, as a result of an electric shock received while working in a roentgen-ray laboratory.

James C. Douglass, Franklin, Ky.; University of Nashville (Tenn.) Medical Department, 1873; member of the Kentucky State Medical Association; aged 77; died, March 25, at an infirmary in Nashville, Tenn., of cerebral hemorrhage.

Edward Charles Patton, Cleveland; Western Reserve University School of Medicine, Cleveland, 1919; member of the Ohio State Medical Association; aged 32; died, March 25, at the City Hospital, of scarlet fever and diphtheria.

Anthony George Kreidler ✠ Cincinnati; Kentucky School of Medicine, Louisville, 1893; Medical College of Ohio, Cincinnati, 1894; on the staff of St. Francis Hospital for twenty-five years; aged 59; died, March 9, of septicemia.

Harry R. Shumard, Clay Center, Kan.; Cincinnati College of Medicine and Surgery, 1902; member of the Kansas Medical Society; aged 51; died, March 10, of a self-inflicted bullet wound, while suffering from ill health.

Lafayette Hill, Jr., Covington, Tenn.; Missouri Medical College, St. Louis, 1875; member of the Tennessee State Medical Association; formerly bank president; aged 74; died, March 22, following a long illness.

Charles Lee Armington, Anderson, Ind.; Central College of Physicians and Surgeons, Indianapolis, 1886; formerly on the staff of the Central Indiana Hospital for the Insane, Indianapolis; aged 79; died, March 31.

William McFarlane Campbell, Pittsburgh; University of Pennsylvania School of Medicine, Philadelphia, 1899; member of the Medical Society of the State of Pennsylvania; aged 49, died, March 12, of pneumonia.

William J. McNaughton, Atlanta, Ga.; University of Georgia Medical Department, Augusta, 1899; aged 65; died, March 12, at the Grady Hospital, of chronic interstitial nephritis and cerebral hemorrhage.

William H. Alexander, Canonsburg, Pa.; Jefferson Medical College of Philadelphia, 1885; member of the Medical Society of the State of Pennsylvania; aged 64; died, March 10, of arteriosclerosis and heart disease.

Arminius Cleveland Pole ✠ Baltimore; University of Maryland School of Medicine, Baltimore, 1876; emeritus professor of anatomy at his alma mater; aged 72; died, March 31, at the Maryland General Hospital.

Thomas W. Gronendyke, Newcastle, Ind. (licensed, Indiana, 1897); Civil War veteran; formerly county health commissioner and member of the city council; aged 84; died, March 9, following a long illness.

Silas M. Stickley, Stephens City, Va.; College of Physicians and Surgeons, Baltimore, 1879; member of the Medical Society of Virginia; formerly mayor, councilman and magistrate; aged 72; died, March 20.

John Willis Walter, Point Pleasant, Pa.; Medico-Chirurgical College of Philadelphia, 1892; member of the Medical Society of the State of Pennsylvania; aged 56; died, March 25, of tuberculosis.

Charles Francis Stratmann ✠ Brooklyn; Columbia University College of Physicians and Surgeons, New York, 1906; aged 40; on the staff of the Norwegian Hospital, where he died, March 28, of pneumonia.

Charles Nathaniel Newman, Tullahoma, Tenn.; University of Tennessee College of Medicine, Memphis, 1889; University of Louisville (Ky.) School of Medicine, 1891; aged 68; died, March 10, of angina pectoris.

Timothy Francis Brassill ✠ Cambridge, Mass.; Tufts College Medical School, Boston, 1905; served in the M. C., U. S. Army, during the World War; aged 50; died suddenly, March 21, of angina pectoris.

Thomas C. Bozeman, Gantt, Ala.; University of Alabama School of Medicine, Tuscaloosa, 1892; member of the Medical Association of the State of Alabama; aged 65; died, March 13, of cardiorenal disease.

Elmer E. Tansey ✠ Chicago; Rush Medical College, Chicago, 1895; formerly on the staffs of the Washington Park and South Chicago hospitals; aged 60; died, April 7, of renal calculus and nephritis.

Benjamin N. Ward, Como, Miss.; Medical Department of the Tulane University of Louisiana, New Orleans, 1897; aged 57; died, March 19, at Rochester, Minn., of adenocarcinoma of the stomach.

Flora Williams Smith, Kingsburg, Calif.; Eclectic Medical Institute, Cincinnati, 1893; member of the California Medical Association; formerly a practitioner in Indiana; aged 52; died, March 27.

Charles Clifford May ✠ Adrian, Minn.; State University of Iowa College of Medicine, Iowa City, 1886; aged 64; died, March 15, of a self-inflicted bullet wound, while suffering from ill health.

William Clarken Hopper, San Francisco; Cooper Medical College, San Francisco, 1898; aged 50; died, March 16, at St. Mary's Hospital, of septic sore throat and purpura hemorrhagica.

Alfonso Clemens Czibulka, Warren, Ill.; University of Vermont College of Medicine, Burlington, 1889; Spanish-American War veteran; aged 56; died, March 25, of pneumonia.

George M. Grim, Ottsville, Pa.; Jefferson Medical College of Philadelphia, 1887; member of the Medical Society of the State of Pennsylvania; aged 62; died suddenly, March 12, of thrombosis.

Arthur Joseph Eagleton, Newark, N. J.; University of London, 1918; M.R.C.P., London, 1921; on the staff of the Newark Eye and Ear Infirmary; died, March 20, of pneumonia.

William Taylor Foute, Lenoir City, Tenn.; Southern Medical College, Atlanta, Ga., 1882; aged 70; died, in March, at a hospital in Knoxville, following an operation for gangrene of the leg.

Joseph Ingram Mershon ✠ Marshfield, Ore.; University of Illinois College of Medicine, Chicago, 1912; aged 40; died, March 21, at Portland, of atrophy of the liver, following an operation.

Joseph Edwin Wilson, Canton, N. C. (licensed, North Carolina, 1885); member of the Medical Society of the State of North Carolina; aged 67; died, February 16, of heart disease.

William Joseph Sheehan, Salem, Mass.; Medical School of Harvard University, Boston, 1891; member of the Massachusetts Medical Society; aged 58; died, March 17, of heart disease.

Daniel R. Hardeman, Little Rock, Ark.; Kentucky School of Medicine, Louisville, 1892; member of the Arkansas Medical Society; aged 59; died, March 9, of arteriosclerosis and nephritis.

John C. Lampman, Hastings, Mich.; Eclectic Medical Institute, Cincinnati, 1860; Civil War veteran; aged 86; died, March 9, at the Pennock Hospital, of injuries received in a fall.

Clayton W. Richards, Smithfield, Pa.; Jefferson Medical College of Philadelphia, 1878; aged 76; died, March 16, at Washington, of injuries received in an automobile accident.

Carel Lafayette Brewster, Alexandria, La.; Memphis (Tenn.) Hospital Medical College, 1909; member of the Louisiana State Medical Society; aged 42; died, March 13.

Lloyd L. Buck, Grimsby, Ont., Canada; Queen's University Faculty of Medicine, Kingston, 1909; aged 42; died, January 12, at the Hamilton (Ont.) General Hospital, of septicemia.

Harry W. Sigworth ✠ Waterloo, Iowa; Rush Medical College, Chicago, 1899; formerly city physician of Waterloo; aged 47; died, April 5, as the result of a bullet wound.

William Edgar Boyce, Yonkers, N. Y.; University and Bellevue Hospital Medical College, New York, 1903; aged 50; died suddenly, January 28, of heart disease.

W. T. Bohannon, Nevada, Mo.; Louisville (Ky.) Medical College, 1871; member of the Missouri State Medical Association; aged 82; died, February 14.

Reginald White Rutherford, Chatham, Ont., Canada; University of Toronto Faculty of Medicine, 1902; aged 44; died, January 14, of heart disease.

John J. O'Neill, Philadelphia; University of Pennsylvania School of Medicine, Philadelphia, 1871; aged 76; died recently, of angina pectoris.

William McKinley Shankle, Chilton, Texas; University of Georgia Medical Department, Augusta, 1881; aged 70; died, March 11, of heart disease.

John B. Stewart, Shelbyville, Ind.; Cincinnati College of Medicine and Surgery, 1866; aged 82; died, March 17, at Highland, Ill., of senility.

Thomas M. Clarke, Syracuse, N. Y.; Albany Medical College, 1895; aged 61; died, February 18, in a local hospital, of Hodgkin's disease.

William Lyon Hamilton, New York; Bellevue Hospital Medical College, New York, 1879; aged 68; died, March 12, of arteriosclerosis.

Charles A. Hatch, Marion, Ohio; Missouri Medical College, St. Louis, 1877; aged 73; died, February 28, of pulmonary edema.

John McDonald, St. Peters, N. S., Canada; Dalhousie University Faculty of Medicine, 1876; died, February 26, of pneumonia.

Oscar F. Williams, West Liberty, Ohio; Cincinnati College of Medicine and Surgery, 1894; aged 76; died, January 28.

Spencer T. Lucas, Jefferson City, Tenn. (licensed, Tennessee, 1889); aged 72; died, March 21, of pneumonia, following influenza.

Fred McAuslan Robbins, Springfield, Mass.; Detroit Medical College, 1880; aged 70; died, March 13, at Farmingdale.

Charles Rowan ✠ Pittsburgh; Jefferson Medical College of Philadelphia, 1896; aged 53; was drowned at sea, March 11.

Channing L. Pryor, Maywood, Mo.; Beaumont Hospital Medical College, St. Louis, 1892; aged 69; died, March 13.

W. F. Hyde, Christiansburg, Ohio; Columbus Medical College, 1887; aged 67; died, January 24, of angina pectoris.

Alfred W. Sifton, Castle Rock, Wash.; University of Michigan Medical School, 1880; aged 72; died recently.

Sherrod K. Pickens, Winfield, Texas; Louisville (Ky.) Medical College, 1873; aged 76; died, March 10.

John V. Littell, Lafayette, Ind.; Medical College of Indiana, Indianapolis, 1879; aged 74; died, February 17.

Eugene C. H. Squire, Yakima, Wash.; St. Louis Medical College, 1879; aged 70; died, February 22.

Joseph H. Light, Chanute, Kan.; Pulte Medical College, Cincinnati, 1887; aged 79; died, March 20.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE JOURNAL'S BUREAU OF INVESTIGATION, OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER GENERAL MATERIAL OF AN INFORMATIVE NATURE

LOESER'S INTRAVENOUS SOLUTION OF SODIUM THIOSULPHATE NOT ACCEPTED FOR N. N. R.

Report of the Council on Pharmacy and Chemistry

The Council has authorized publication of the following statement. W. A. PUCKNER, Secretary.

Loeser's Intravenous Solution of Sodium Thiosulphate (New York Intravenous Laboratory) is marketed in ampoules of 10 c.c., said to contain 1 gm. of sodium thiosulphate, U. S. P. The price lists in the September, 1923, and February, 1925, issues of the *Journal of Intravenous Therapy*, an advertising publication of that firm, states that it is to be used in "arsenical dermatitis, mercurial stomatitis, bichlorid poisoning, skin diseases" and "Arsphenamine Dermatitis, Metallic Poisoning, Skin Diseases." An editorial in the latter issue (p. 4) states:

"Introduced in 1920, sodium thiosulphate is rapidly coming into universal use in metallic toxemias. Numerous reports have appeared in the medical literature showing its favorable clinical action as an antidote for arsenic, bismuth, mercury, and even lead poisoning."

The tenor of the advertising is to the effect that the use of thiosulphate in these conditions is supported by equal evidence. This is essentially misleading; for the evidence of its efficiency against arsphenamin dermatitis is very much stronger than that for other "metallic toxemias." Its use against metallic poisoning other than arsenical dermatitis is only in an experimental stage: good results in mercury poisoning have been reported; but the uncertain outcome of mercury poisoning under any methods of treatment, and especially the uncertainty as to how much of the poison was removed from the stomach by other chemical antidotes and lavage, makes it difficult to draw definite conclusions. One may not yet feel confident that this treatment of mercury poisoning will have a better fate than so many others that for a time were acclaimed as enthusiastically, but which, on further experience, failed to fulfil the earlier expectations.

The assumption on which the thiosulphate treatment of mercurial poisoning was introduced, that it would precipitate an insoluble mercury sulphid, is incorrect; but it is conceivable that it might act in other ways, and further investigations are needed. In the meantime, physicians are quite warranted in employing the thiosulphate treatment, since it may really prove useful and at least appears to be harmless; but it is necessary that they should not rely on it as sufficient, to the possible neglect of other measures, especially the local treatment and the removal of the mercury. Such neglect would be a natural tendency of the propaganda that the use of thiosulphate in mercury poisoning stands on the same basis as its use in arsphenamin dermatitis. The same remarks apply to its use in poisoning by other metals, except that the evidence for these is even more scanty.

Aside from these claims regarding the use of thiosulphate, there are certain other claims and statements made by this firm for its products in general, necessarily inclusive of the thiosulphate, which are likely to mislead. There is, in the first place, the general claim that the intravenous solutions of this particular firm are superior to those of other firms. This is implied by such terms as "The Standard" and "Certified." In fact, however, these preparations are "standard" only in the imagination of the advertisement writers; and they are "certified" only in the sense that the packages bear a serial number, such as is used by most manufacturers. There are further vague claims about years of research and experimentation having been required to produce the Loeser brand of intravenous solutions, but there are no data to indicate that the solutions as marketed are in any way superior to those marketed by many reputable pharmaceutical firms. These claims of superiority are therefore misleading.

Finally, but most seriously, this firm through its house organ is systematically and persistently misrepresenting the general status of intravenous therapy. No one would deny that the intravenous injection of drugs has important uses, under special conditions; but no one should deny that intravenous injection should not be employed when the therapeutic effects of a drug can be at least equally well produced by less heroic methods of administration. It is true of most drugs that they act at least as well by mouth or hypodermically as by vein; but the propaganda of this firm aims to produce the impression that this is not the case; and for this purpose resurrects the idea that all diseases originate and reside in the blood.

"In every disease process there are present two factors — the elements causing the disturbance, and those combating it. In any systemic derangement both these elements are found directly in the blood stream."

"All therapeutic methods are designed to restore the blood to its normal condition and repel the foreign elements present. Is it logical to take the 'longest way around' to bring this about, *i. e.*, to administer a drug per os, per rectum, subcutaneously, or intravenously [*Sic*], with the hope that it will eventually reach the blood stream?"

Statements such as these are distinctly misleading as to the real field for intravenous therapy, and serve only to discredit that method of administration.

The Council finds Loeser's Intravenous Solution of Sodium Thiosulphate inadmissible to New and Nonofficial Remedies because misleading and unwarranted claims are made for it in the advertising of the New York Intravenous Laboratory.

Correspondence

"PROTECTIVE DEVICE IN NOSE AND THROAT WORK"

To the Editor:—A short article with illustration, entitled "Protective Device in Nose and Throat Work," by Dr. W. N. Lipscomb of Lexington, Ky., appeared in THE JOURNAL, April 11, 1925. About fifteen years ago the surgical supply houses were carrying glass shields for just such work as is now under discussion. The catalogue price seemed excessive to me, as I desired to install such a device in my service as attending otolaryngologist to Seton Hospital, this city, whose 500 beds were devoted to the care of the tuberculous poor exclusively, and some other means toward the end desired was sought. Two 4 foot lengths of gas pipe were assembled, of such bore that one would telescope into the other. The hospital carpenter was instructed to fix the larger piece of piping to a weighted box mounted on small wheels. The smaller piece of piping was bent to a right angle, at its mid-point, and one end was passed into the upright and held at any desired height by a set screw. To the horizontal arm of the right-angled piece was slung a keystone-shaped piece of clear glass, without a frame. This device has been in constant use to date.

There are several rather important features in this device. The glass must be very clear and heavy, about 18 by 18 by 12 inches at the base. It should be cut from a much larger sheet in order to be perfect. The absence of any frame simplifies sterilization. Its keystone shape is quite important, permitting much greater freedom in manipulating instruments. The operator's hands and instruments are always on the other side of the glass. Reflections from the glass surface are eliminated by placing the glass very near the operator's face. The upright is firmly clamped to one end of the weighted box. This utilizes the weight in a counter direction, holding the shield firmly even if struck a violent blow, and clears the floor surface for the physician's feet, particularly as it is always at one side of the

chair. This device was exhibited before the joint meeting of the National and New York State Tuberculosis associations, at Syracuse, N. Y., and was favorably commented on. Its cost, as opposed to the manufactured article, was nominal.

If it is undesirable for good and sufficient reasons to use this in private practice constantly the shield may be made to operate from overhead with the counterweight carried over to the wall of the examining room.

C. D. VAN WAGENEN, M.D., New York.
4 East Sixty-Fifth Street.

THE DIPHTHERIA EPIDEMIC AT NOME

[NOTE.—The following letter, written by Dr. Curtis Welch of Nome, Alaska, Feb. 16, 1925, was received, April 12. It affords an insight into the difficulties of medical practice under primitive conditions.—ED.]

To the Editor:—I submit the following report of the epidemic of diphtheria occurring in Nome, Alaska, and first reported, Jan. 21, 1925.

After the close of navigation, about Nov. 1, 1924, I noticed that tonsillitis and inflammatory diseases of the throat were unusually prevalent. Some of the cases had the appearance of diphtheria. I have been practicing in the vicinity for eighteen years and in all that time I had not seen, nor has there been reported, a case of diphtheria in this division. Many cases were seen in this eighteen years that were suggestive of diphtheria, but time always proved that they were one of the various forms of inflammatory diseases of the throat.

In October, a family of six, consisting of mother, father and four children, aged from 2 to 6, came from Holy Cross, a point on the Yukon River, a two weeks' trip on a gas boat. One of the children had been taken with tonsillitis (?) at Holy Cross two weeks before, and was treated by a "sister." When they arrived here, they immediately called me and I found the child much depleted and emaciated with foul breath, but was unable to get a view of the throat. I questioned the parents carefully as to whether there was any diphtheria in Holy Cross, and as to the health of the other three children, all under 6 years of age. Their answers were in the negative. I concluded that it could not be diphtheria, since none of the other children had shown any signs, and all their throats were clear. I saw the child next day and was able to get a good view of the throat, but found no membrane. The child was unable to take any nourishment. The next morning at 7 o'clock the child died.

After this no deaths occurred, but as I stated before, I noticed an unusual amount of inflammatory throat trouble, mostly in children. About January 1, my district nurse reported a case of tonsillitis in a half breed child, aged 5 years. The next morning at 7 o'clock I was called, but the child was dead when I arrived. I was not allowed to make a postmortem examination or to examine the child, so was unable to draw conclusions. This case was suspicious in that death from tonsillitis is rare, but nevertheless sometimes does occur.

January 11, I was called to see a boy, aged 6 years, who was apparently suffering from tonsillitis. I sent him to the hospital and treated the condition as tonsillitis. This patient began to show a membrane shortly after entering the hospital, and also some nasal involvement which was almost typical. I had no antitoxin, except some 6 years old, which I did not feel justified in using, as I had no idea what effect it might have. I discussed the case daily, with my nurses, as they are the only consultants I have, there being no physician within a ten days' trip of here. We considered the case as typical diphtheria, but did not make it public, as it was a serious matter to throw the community into a state of panic which I knew would occur. I was giving heart stimulants and tincture of ferric chlorid (the old fashioned treatment for diphtheria). The throat and nose cleared up perfectly and the child's general condition became almost normal. January 20, I saw the child at 4 o'clock in the afternoon. At this time it was cyanosed and in a state of collapse. Usual treatment restored it to a good condition. Two hours later I was called and found the child moribund, and it died about five minutes after my arrival. I had then decided to report the case as diphtheria in the morning, but before I was up I was called to see an Eskimo child, aged 6 years, and found the mouth and nose one mass of fetid membrane which, on being disturbed, bled profusely. This case was conclusive.

I immediately notified the mayor of the city, as this is an incorporated town and I have no jurisdiction therein as a health officer. He forthwith asked me to take charge of the whole situation, which I was loath to do. I suggested that we at once form a temporary board of health, with power to act arbitrarily. This was done. At my suggestion the schools, churches, movies and lodges were closed, and all public gatherings were forbidden. All traveling on the trails with children was stopped, and all traveling on the trail by adults, except mail and most urgent business, was discouraged.

A Red Cross nurse experienced in public health work was employed to run down and hunt out all suspicious cases and report them to the board of health. All houses were placarded where typical cases were found (typical cases I arbitrarily called those showing any membrane) and all inmates of placarded houses were quarantined. Any patient having any inflammation of the throat was provisionally quarantined from day to day, until the throat became normal or membrane appeared.

Under these conditions we succeeded in discovering about twenty-five cases of diphtheria (typical) and twice as many suspects. All these we watched carefully, and since that time only a half dozen or so cases have developed.

In regard to the old antitoxin which I had on hand: When I came to Nome (town) I was appointed assistant commissioner of health. I immediately wrote to the commissioner of health to send me diphtheria antitoxin, smallpox vaccine and typhoid vaccine. This was in about 1919. He did so that summer, and in the shipment sent me was 80,000 units of Lilly's diphtheria antitoxin. The date of expiration of this serum was Jan. 1, 1920. This had been kept under perfect storage conditions. On seeing the first case which I considered unmistakable and also absolutely fatal, that is, in the native child on whom I made my diagnosis, I decided to try this serum. I did so, giving 6,000 units in two injections of 3,000 each. The child died within forty-eight hours, but showed no local symptoms or untoward signs due to the antitoxin. The next day all the other members of the family, namely, mother, father and two younger children, showed membrane in the throat. These I treated vigorously with the old serum. I am experienced enough in medicine not to draw the conclusion from four cases that this was a specific. But it demonstrated that I need not fear untoward results from this antiquated serum. Their throats immediately cleared up.

After about three days, the sister of the child who died in the hospital with diphtheria, aged 5 years, showed a typical case of diphtheria with marked membrane and fetid odor. I immediately gave 6,000 units of the old antitoxin, and repeated this dose daily for several days. In five days all membrane had disappeared, and in a week the patient was practically well. I used the old serum sparingly from that time until I was able to get new from the outside, with apparently excellent results.

Since the new serum has come in, we have used it unstintingly and at this date we have only one case, and the patient is convalescent.

It is hard for me to make the situation clear. I have included in the total number of cases several cases which occurred before my final diagnosis, which, in the light of subsequent events, I know to have been diphtheria. I have also added to the deaths three which I also know, in the light of subsequent events, were due to diphtheria. To date there have been five deaths, thirty-four cases and thirty suspects.

I expect to lighten the quarantine, February 21, but have warned the board of health and the people against laxness. It is to be expected that as soon as the quarantine is lifted sporadic cases will occur, but we have now plenty of fresh antitoxin, and I feel that the danger of any serious epidemic is over.

We shall open the schools, February 23, but all children's throats will be examined daily, and those who permit will be given the Schick test and toxin-antitoxin if feasible.

We have no facilities for bacteriologic examinations here, so had to depend entirely on the clinical symptoms both objective and subjective.

CURTIS WELCH, M.D., Nome, Alaska.
Acting Assistant Surgeon, U. S. P. H. S.;
U. S. Government Physician, Bureau of Education; Assistant Commissioner of Health, Territory of Alaska.

PREVENTION OF GOITER IN ROCHESTER, N. Y.

To the Editor:—A statement appeared in THE JOURNAL, April 4, p. 1056, under the title, "Summary of Goiter Prevention," to the effect that Rochester had discontinued its method of adding iodid to the water supply. So far as Rochester is concerned, the statement is one of the "facts that aren't so." Rochester has not stopped putting iodid in the water. It is putting it in now. No information relating to the taking of tablets containing iodid has been given or will be given in Rochester by me.

G. W. GOLER, M.D., Rochester, N. Y.
Health Officer.

"THE EFFECT OF PERTUSSIS ON THE HEART"

To the Editor:—In their paper on "The Effect of Pertussis on the Heart" (THE JOURNAL, April 4), Drs. Ledbetter and White state that the heart in whooping cough has never been carefully studied. They quote from many textbooks, but have apparently overlooked some of the original literature.

In 1913, Dr. Mera Brick published an article (*Virchow's Arch. f. path. Anat.* **212**:404) reporting necropsy findings in fourteen cases of pertussis. In every instance, changes in the right ventricle were found, usually in the form of an eccentric hypertrophy, more rarely as a simple hypertrophy and dilatation. In most cases hypertrophy of the muscle fibers was demonstrated microscopically. Fatty infiltration of the heart muscle, particularly on the right side, and dilatation of the right auricle were also demonstrated. A good bibliography is appended to the article. It is clear that these changes in the heart will, in most instances, be difficult to demonstrate in the clinic, although more than thirty years ago Koplik (*Arch. Pediat.* **10**:787, 1893) presented impressive evidence of enlargement and failure of the right ventricle in whooping cough.

In the light of these findings, the conclusion of Ledbetter and White that there is no proof of myocardial damage during or after pertussis is not quite convincing. They are probably correct, however, in their statement that whooping cough has no permanent damaging effect on the heart, provided the child survives the acute stage.

ERNST P. BOAS, M.D., New York.

THE OPEN HOSPITAL

To the Editor:—I read with keen interest Dr. Goldwater's article in THE JOURNAL, March 28, on the question of the open door in our hospitals. In this message he succinctly defines his attitude on the matter in his closing sentence when he announces that "their duty is plain—they must open wide the door of opportunity, so that the entire medical profession may enter in."

That the stand taken by Dr. Goldwater is no innovation in hospital management is made clear by the perusal of an article in the same issue by Homer F. Sanger of Chicago, who epitomizes his survey of the question with a citation that "the 100 general hospitals that were opened in 1924 show seven open to one closed. The tendency, therefore, is rapidly toward the establishing of more hospitals with open staffs."

These two articles bear eloquent testimony to the dissatisfaction of the profession with the administration of hospitals on the old lines, which close their doors to all unattached physicians; and, what is of greater import, these articles foreshadow changes, which, now in their incipience, are bound to be inaugurated in the near future, and will make the old hospital régime, with its exclusive attending staffs, look like ancient history.

I was probably the first in New York to call attention to the justice of this policy of reform in hospital government in an article entitled "Hospital Reform," which appeared in the *New York Medical Record*, Oct. 27, 1906, and another article published several years before, entitled, "Should Our Hospitals Extend Their Facilities for Operating to Physicians Generally?" These two articles gave the impetus to the profession for the "open door"; for shortly after their appearance, two of the largest general hospitals in New York established a courtesy staff consisting of former interns to whom was extended the privilege of treating their patients in the private wards. At that time I argued that a system which tolerates such an unjust discrimination needs modification and a more equitable adjustment, especially when it is considered that, without adequate hospital advantages, the physician is seriously handicapped in the pursuit of his calling, especially in a city where patients flock to hospitals for treatment. I stated that in place of an exclusive and restricted attending staff, appointments should be made on a more liberal scale, so that physicians would feel that they were not discriminated against by a small influential minority of their own brethren. I further argued that, on the one hand, we have a public educated to avail itself of the facilities of hospitals in time of sickness, and, on the other hand, a cast-iron regulation which closes the door of the hospital to the majority of well equipped practitioners. This oppressive and archaic "system" has made such striking inroads on the earning capacity of physicians in cities where it flourishes as to entail enormous pecuniary losses to the physician, who, against the desire and wish of his patient, is compelled to hand his clientele over to the attached members of the visiting staff. It seems anomalous that a minority of physicians should claim, as though it were a property right, the privileges that should belong to the whole community of physicians. Some of the suggestions outlined in my briefs have since been adopted, and I am still of the opinion that, in a sense, the superiority of one hospital over another as a

public benefaction would be determined by the disposition on the part of our larger institutions to follow the spirit of the times by graciously submitting to the popular demand for an "open door." The universal observance of such a policy would be the supreme achievement of this era.

HENRY S. STARK, M.D., New York.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

PHLORHIZIN TEST IN THE DIAGNOSIS OF PREGNANCY

To the Editor:—I am interested in learning something of the reliability of the Maturin test for the early diagnosis of pregnancy. Can this test be depended on as to accuracy?

M.D., Iowa.

ANSWER.—Maturin is the proprietary name for a German product containing phlorhizin. The phlorhizin test is made by injecting 0.002 gm. of phlorhizin into the gluteal muscles of the patient, who has been fasting. The patient drinks 200 c.c. of water. An immediate test of the urine for sugar serves as a control. Six specimens of urine are examined, at fifteen minute intervals, for glycosuria. If glycosuria is provoked, the test is recorded as positive; otherwise negative. Kamnitzer and Joseph (*Therap. d. Gegenw.* **42**:321, 1921), who devised the test, reported their findings in 300 cases; in 294 of these cases the test proved reliable. Numerous investigators have followed the technic described by Kamnitzer and Joseph with less satisfactory results. Long and Hirst's (*New York M. J. & Rec.* **118**:543 [Nov. 7] 1923) results with eleven cases were "thoroughly disappointing." Williams (*Am. J. Obst. & Gynec.* **5**:369 [April] 1923) was puzzled by his failure to secure reliable results in fourteen cases. Haynes' (*J. Michigan M. S.* **23**:215 [May] 1924) twenty cases and Hellman's twenty-four cases (*New York M. J.* **118**:557 [Nov.] 1923) gave helpful findings with this test. Lewin (*Deutsch. med. Wchnschr.* **49**:105 [Jan. 26] 1923) found 8 per cent. of fifty controls positive. Köster (*Deutsch. med. Wchnschr.* **49**:182 [Feb. 9] 1923) believes the test unreliable. Crainicianu and Goldenberg (*Presse méd.* **32**:191 [March 1] 1924) concluded that a negative test is valuable evidence that pregnancy does not exist.

STERILIZATION OF HYPODERMIC NEEDLES

To the Editor:—Please let me know of a solution or denatured alcohol in which hypodermic needles can be kept without rusting or corroding. The object is to have about a dozen in a bottle of such solution that can be carried from house to house in the country and on plantations while giving typhoid vaccine, without the delay of resterilizing by heat or boiling at every stop.

J. S. HOUGH, M.D., Livingston, Ala.

ANSWER.—If the needles have been previously sterilized and have been transferred to an 80 per cent. alcohol solution they will probably remain sterile. The needles should not be kept continually in alcohol, however, because of a tendency to rust. In the interest of safety, it is preferable to sterilize by boiling or the flame just before use in each case.

JACOBSTHAL'S TEST FOR SYPHILIS

To the Editor:—Please describe the technic of Jacobsthal's test for syphilis, and give me any references to the literature dealing with it.

D. M. S., England.

ANSWER.—There are two Jacobsthal's tests for syphilis: One of them (*München. med. Wchnschr.*, 1910, p. 386) differs from the classical Wassermann test by the use of low temperature for complement fixation. The mixture of antigen, inactivated serum and complement is left in the icebox for one hour. Then the hemolytic system is added and the reaction is completed in the incubator.

In the other reaction, which is a precipitation test (*Ztschr. f. Immunitätsforsch.* **8**:107, 1910), the author mixes 0.4 c.c. of an extract from a syphilitic liver with 0.1 c.c. of inactivated serum and 0.5 c.c. of physiologic sodium chlorid solution. He reads the test in from twenty-four to forty-eight hours.

EXCESSIVE PERSPIRATION OF THE FEET

To the Editor:—A woman, aged 22, is exceedingly annoyed by sweaty feet. The skin between the toes and the sole, as well as on the back of the feet, is extremely tender, with continual itching. The best of care is without avail. There is no constitutional trouble of any kind. The patient's habits are of the best. What could be the cause?

M.D., Missouri.

ANSWER.—The condition described is probably due to a fungus infection related to ringworm and commonly contracted from gymnasiums and swimming pools. It is usually worse in hot weather. The following ointment is useful for pruritus due to fungus infection:

	Gm. or Cc.
Salicylic acid	4
Bismuth subnitrate	10
Mercuric salicylate	4
Oil of eucalyptus	10
Hydrous wool fat and petrolatum, āā q. s. ad	100

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

ARKANSAS: Little Rock, May 12-13. Sec., Reg. Bd., Dr. J. W. Walker, Fayetteville; Sec., Homeo. Bd., Dr. Allison A. Pringle, Eureka Springs; Sec., Eclectic Bd., Dr. C. E. Laws, Fort Smith.

GEORGIA: Atlanta, June 10-12. Sec., Dr. C. T. Nolan, Marietta.

GEORGIA: Augusta, June 2-4. Sec., Dr. C. T. Nolan, Marietta.

KENTUCKY: Louisville, June 9-11. Sec., Dr. A. T. McCormack, State Board of Health Bldg., Louisville.

MARYLAND: Baltimore, June 9-10. Sec., Homeo. Bd., Dr. J. S. Garrison, Ten Hills, Baltimore.

MICHIGAN: Ann Arbor, June 9-11. Acting Sec., Dr. Guy L. Conner, 707 Stroh Bldg., Detroit.

NATIONAL BOARD OF MEDICAL EXAMINERS: Written examinations in Class A medical schools. Parts I and II, June 24-26. All applications for this examination must be made on or before May 25. Sec., Dr. J. S. Rodman, 1600 Walnut St., Philadelphia.

NEVADA: Carson City, May 4. Sec., Dr. S. L. Lee, Carson City.

WYOMING: Cheyenne, June 8-10. Sec., Dr. J. D. Shingle, Citizens Bank Bldg., Cheyenne.

Iowa March Examination

Mr. H. W. Grefe, director of examinations and licenses, Iowa Board of Medical Examiners, reports the written examination held at Des Moines, March 18-20, 1925. The examination covered 8 subjects and included 100 questions. An average of 75 per cent. was required to pass. Six candidates were examined, all of whom passed. The following colleges were represented:

PASSED College	Year Grad.	Per Cent.
Illinois Medical College	(1904)	85.6
Northwestern University	(1924)*	90.2
University of Illinois	(1924)	89.3
Long Island College Hospital	(1907)	88.5
Victoria University Medical Department	(1893)	85.0
University of Bonn, Germany	(1923)†	86.2

* This candidate has completed his medical course and will receive his M.D. degree on completion of a year's internship in a hospital.

† Graduation not verified by the American Medical Association.

Oklahoma January Examination

Dr. James M. Byrum, secretary, Oklahoma Board of Medical Examiners, reports the written examination held at Oklahoma City, Jan. 13-14, 1925. The examination covered twelve subjects and included 120 questions. An average of 75 per cent. was required to pass. Two candidates were examined and passed. Four candidates were licensed by reciprocity and three were granted reregistration certificates. The following colleges were represented:

PASSED College	Year Grad.	Number Examined
University of Berlin, Germany	(1923)*	1
University of Jena, Germany	(1923)*	1

LICENSED BY RECIPROCITY College	Year Grad.	Reciprocity with
Birmingham Medical College	(1915)	Florida
Cornell University	(1921)	New Jersey
Memphis Hospital Medical College	(1905)	Arkansas
Baylor University	(1923)	Texas

* Graduation not verified by American Medical Association.

Book Notices

DEVELOPMENTAL ANATOMY. A Text-Book and Laboratory Manual of Embryology. By Leslie Brainerd Arey, Professor of Anatomy at the Northwestern University Medical School. Cloth. Price, $5.50 net. Pp. 433, with 419 illustrations. Philadelphia: W. B. Saunders Company, 1924.

Professor Arey's revisions of Prentiss' textbook of embryology represented various improvements in text and figures, especially in the discussions of fundamental principles, and filled in certain gaps in the presentation of the subject. The original arrangement was retained; it was essentially a series of "lessons," interweaving general information and directions for laboratory work. The arrangement was in some respects a curious one, ill adapted for general use. The present work represents a complete change in the plan of the original volume and many further additions and alterations of details; but the attitude toward the subject is the same and the original text can still be recognized in many paragraphs. It is divided into three sections: general development; organogenesis, and a laboratory manual. The first section is practically new. The introductory historical sketch is particularly commendable and deserves augmentation. We are at last beginning to appreciate the value of an historical background in stimulating the student's interest. The discussion of gastrulation is excellent, and the embryonic membranes are now adequately treated. The development of the placenta and allied topics are included here, where they rightly belong. The section ends with a chapter on age, body form and growth changes before and after birth. One receives the impression that the relation between size and age is more exact and definite than it really is. The same is true of the duration of pregnancy. The second section discusses the details of organogeny and histogenesis; the grouping is based on germ-layer derivation. Notable among the new illustrations are those on the development of the face and of the venous system. Some should be replaced. Thus, the drawing of the Bulle embryo (Fig. 245) was reported to be incorrect as to the extent of the open neural folds in 1891, and yet it has been incessantly copied. The interpretation that it gives of the subdivisions of the nervous system is wholly unjustifiable. More correct representations of the embryonic human brain based on much better material than Wilhelm His ever had are now available, and it is to be hoped that the old His figures will soon be replaced. In this connection, attention may be called to the ambiguity in the use of the term rhinencephalon in text and figures. The third part consists of the laboratory directions, which are unique in the use made of dissections of entire embryos. These and the exceptionally lucid descriptions of the development of intricate relationships, as in the coelom, represent the great contribution of Prentiss. The book is admirably adapted to current American teaching methods, and the subject is correctly, clearly and logically presented, with abundant illustrations. No student could ask for more complete or better guidance than it gives. The only question is, Does it eliminate so much of the struggle for knowledge that the course in embryology may be completed in a merely perfunctory manner? This may be the case unless certain matters are borne in mind in the presentation of the work. It is well to remember the main reason for the elaborate requirements of our medical curriculums. Surely, the training involved is far more important than the facts "learned." If the student is to acquire the scientific point of view in order to comprehend and evaluate the advances in scientific medicine, he must be exposed to as many phases of biologic activity as possible; his powers of observation and analysis, his critical ability, must be developed. If the science is taught adequately for its own sake, the practical facts can always be acquired when they are needed. The work should therefore be so planned that more must be done than mere seeing and remembering. The physiologic aspect of the subject has been intentionally omitted. Whether it is ready for systematic treatment or not, the results of experimental embryology deserve to be introduced whenever possible, for they not only help in the understanding of developmental processes and in stimulating interest, but also contribute to the fundamental problems of physiology.

DIATHERMY IN THE TREATMENT OF GENITO-URINARY DISEASES, WITH ESPECIAL REFERENCE TO CANCER. By Budd C. Corbus, M.D., F.A.C.S., and Vincent J. O'Conor, S.B., M.D., Instructor in Genito-Urinary Diseases in the University of Illinois College of Medicine. Cloth. Price, $5. Pp. 192, with 35 illustrations. Saint Paul: The Bruce Publishing Company, 1925.

This book presents the views of its authors on diathermy, and the application of this method to various genito-urinary diseases and to some malignant tumors. In the technical and biologic statements, there are some inaccuracies. For instance, the heat generated by electric currents depends not alone on the resistance of the conductor, but also on the power of the electric current and on the time of the electric permeation, the exact proportions of which items are exactly defined by Joule's law. The differential definition of the d'Arsonval currents and those used for diathermy is also incorrect. It should read: The d'Arsonval currents are characterized by oscillation groups of long intervals, by low intensity and high tension, while the diathermy currents show more numerous groups of oscillation with very short intervals, and are of high intensity and low tension. It is rather precarious to derive clinical deductions from such arbitrary assertions as that the principal curative factor in inflammation is the production of heat, and with the rise of each degree of temperature in any system the chemical activity is increased 10 per cent. and the electric "conductance" 2.5 per cent. There seems to be little warrant for the statement that if electrodes of equal size are placed opposite each other, the greatest amount of diathermic heat is produced halfway between the electrodes. In the chapters dealing with the treatment of gonorrhea, the authors furnish a minute description of their technic, the understanding of which is facilitated by instructive illustrations. The favorable results obtained by diathermy are specified in detailed histories of selected cases. It is hard to understand how, as the authors assert, the capacity of a contracted bladder may be increased by diathermic treatments. The electrocoagulation of vesical tumors is described in all its phases, and the various manipulations are illustrated by good pictures.

CHRONIC EPIDEMIC ENCEPHALITIS. By August Wimmer, M.D., Professor of Psychiatry, Copenhagen University. With a preface by Sir Frederick W. Mott. Cloth. Price, 21 shillings. Pp. 352, with 86 illustrations. London: William Heinemann, Ltd., 1924.

This Danish investigator is the first person to write in the English language a comprehensive monograph on the various disturbances following in the wake of acute epidemic encephalitis. In the very wording of the title he takes the bull by the horns and commits himself to the view that the parkinsonian state and other so-called sequelae really are symptoms of a chronic infection. The book is based on personal observation of a large number of cases, many of which are reported in considerable detail; but the literature also is carefully considered. The subject is a most timely one, as the number of cases is constantly increasing, and this excellent and reliable book will prove most helpful to physicians dealing with these cases.

THE THEORY AND PRACTICE OF THE STEINACH OPERATION. With a Report on One Hundred Cases. By Dr. Peter Schmidt. Introduction to the English edition by J. Johnston Abraham, C.B.E., D.S.O., M.D. Cloth. Price, 7 shillings 6 pence net. Pp. 150. London: William Heinemann, 1924.

The author marshals the familiar arguments on which the theory of the Steinach procedure is based, but fails to mention the mass of facts, clinical and experimental, with which this theory is incompatible. The operation now called by Steinach's name is no longer the division of the efferent vessels proceeding from testis to epididymis, but simple ligation of the vas deferens—vasoligation. The only reason for the existence of the book is the detailed report of eighty-six cases of vasoligation. In twelve of these the operation failed to remedy the existing evils; in all the remainder that were followed, ligation of one or both vasa removed any and all of the following ailments, which the respective patients happened to have: physical exhaustion, neurasthenia, loss of

memory, mental depression, homosexuality, impairment of vision and of hearing, high blood pressure, baldness, obesity, rheumatism, and, of course and invariably, sexual impotence; even a man of 70, totally impotent for years, changed white hair and beard to black, and copulated normally three times weekly a year after vasoligation. But the acme of strain on the reader's credulity, and incidentally a blow to the Steinach theory, are embodied in the report of a decrepit, impotent man of 53, in whom vasoligation produced "complete restitution of all his bodily and mental functions," although at operation both testes had been found completely atrophied.

Medicolegal

Optometry as Branch of Medicine

(Swanz v. Clark, Sheriff (Mont.), 229 Pac. R. 1108)

The Supreme Court of Montana says that the plaintiff instituted this action to recover possession of an ophthalmometer and stand, a spectacle trial case, a retinoscope, and spectacle frames, which had been seized by the defendant sheriff under a writ of attachment. The plaintiff contended that they were exempt from seizure under attachment or execution. The controversy resolved itself into this: Is one who practices optometry a mechanic or artisan, and is his business a "trade," within the meaning of the Montana statute which exempts "to a mechanic or artisan: Tools or implements necessary to carry on his trade"? It is not an argument to say that an optometrist is a mechanic because he employs mechanical means or mechanical instruments in his practice. The instruments commonly used by a dentist are mechanical tools, as are most of the instruments used in a surgical operation; but the use of such instruments does not make the dentist or surgeon a mere mechanic within any fair meaning of the term. It is worthy of note that by Section 3122 of the Revised Codes the practice of medicine in Montana includes, among other things, the cure, treatment or palliation of any ailment, disease or infirmity of the mind or body of another by directing for use any appliance, apparatus or other agency, and by Section 3169 physicians and surgeons are specifically exempted from the operations of the statute regulating the practice of optometry. Apparently the legislature recognized optometry as a branch of the medical science, or, at least, a proper subject included within the scope of the regular physician's practice. The instruments in question were not exempt from attachment under the exemption statute stated.

Liability of Packers for Glass in Food

(Richenbacher v. California Packing Corporation (Mass.), 145 N. E. R. 281)

The Supreme Judicial Court of Massachusetts says that the sale of food dangerous to health and to life renders the manufacturer or the seller thereof liable to third persons not the direct purchasers for injuries received by them from its consumption, if the manufacturer or seller was negligent in its preparation or output. A food product mixed with glass is as unfit for human consumption and as dangerous to health and life as a poisonous food. In this case the plaintiff sought to recover damages caused by biting on a piece of glass while eating spinach taken from a can purchased from a retailer who had purchased it from a wholesale grocer to whom it had been sold by the defendant. There were findings for the plaintiff, exceptions to which are overruled. The fact that the glass got into the can during the preparation of the spinach and before the can was sealed, notwithstanding the great care which was customarily used in canning spinach, was a circumstance which warranted an inference that some person whose duty it was to see that the system was observed was negligent in the examination of the contents of the can before it was sealed, if not negligent in preventing the presence of glass at a place where it could be put or might fall into the can.

Society Proceedings

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, Atlantic City, N. J., May 25-29. Dr. Olin West, 535 North Dearborn Street, Chicago, Secretary.

American Association for the Study of Allergy, Atlantic City, May 26. Dr. W. W. Duke, Federal Reserve Bank Bldg., Kansas City, Mo., Sec'y.
American Association for the Study of Goiter, Atlantic City, May 26. Dr. J. D. Moschelle, Odd Fellows Bldg., Indianapolis, Ind., Secretary.
American Association of Genito-Urinary Surgeons, Washington, D. C., May 4-6. Dr. Henry G. Bugbee, 40 East 41st St., New York, Sec'y.
American Climatological and Clinical Association, Washington, D. C., May 4-5. Dr. Arthur K. Stone, Framingham Center, Mass., Secretary.
American Dermatological Association, Washington, D. C., May 4-6. Dr. Udo J. Wile, 9 Geddes Heights, Ann Arbor, Mich., Secretary.
American Gastro-Enterological Association, Atlantic City, May 25-26. Dr. John Bryant, 338 Marlborough Street, Boston, Secretary.
American Gynecological Society, Washington, D. C., May 4-6. Dr. Arthur H. Curtis, 104 South Michigan Avenue, Chicago, Secretary.
American Laryngological Association, Washington, D. C., May 4-6. Dr. George M. Coates, 1811 Spruce Street, Philadelphia, Secretary.
American Laryngological, Rhinological and Otological Society, Atlantic City, May 22-25. Dr. R. L. Loughran, 145 West 58th Street, New York, Secretary.
American Neurological Association, Washington, D. C., May 5-6. Dr. Frederick Tilney, 870 Madison Avenue, New York, Secretary.
American Ophthalmological Society, Washington, D. C., May 5-6. Dr. T. B. Holloway, 1819 Chestnut Street, Philadelphia, Secretary.
American Orthopedic Association, Washington, D. C., May 5-6. Dr. DeForest P. Willard, 1630 Spruce Street, Philadelphia, Secretary.
American Otological Society, Washington, D. C., May 4-5. Dr. T. J. Harris, 104 East 40th Street, New York, Secretary.
American Pediatric Society, Washington, D. C., May 4-6. Dr. H. C. Carpenter, 1805 Spruce Street, Philadelphia, Secretary.
American Proctologic Society, Atlantic City, May 25-26. Dr. J. F. Montague, 540 Park Avenue, New York, Secretary.
American Psychiatric Association, Richmond, Va., May 12-15. Dr. E. D. Bond, 4401 Market Street, Philadelphia, Secretary.
American Psychopathological Association, Washington, D. C., May 7. Dr. Sanger Brown, 2d, 173 East 70th Street, New York, Secretary.
American Society of Clinical Investigation, Washington, D. C., May 4. Dr. J. H. Austin, University of Pennsylvania, Philadelphia, Secretary.
American Society of Clinical Pathologists, Philadelphia, May 20-23. Dr. Ward Burdick, Metropolitan Building, Denver, Secretary.
American Society of Tropical Medicine, Washington, D. C., May 5-6. Dr. B. H. Ransom, P. O. Box 131, Pennsylvania Avenue Station, Washington, D. C., Secretary.
American Surgical Association, Washington, D. C., May 4-6. Dr. Robert B. Greenough, 8 Marlborough Street, Boston, Secretary.
American Therapeutic Society, Atlantic City, N. J., May 21-22. Dr. L. H. Taylor, The Cecil, Washington, D. C., Secretary.
American Urological Association, St. Louis, May 21-23. Dr. H. G. Hamer, Hume-Mansur Building, Indianapolis, Secretary.
Arkansas Medical Society, Little Rock, May 13-15. Dr. William R. Bathurst, 810 Boyle Building, Little Rock, Secretary.
Association for the Study of Internal Secretions, Atlantic City, May 26. Dr. F. M. Pottenger, Title Insurance Bldg., Los Angeles, Secretary.
Association of American Physicians, Washington, D. C., May 5-7. Dr. Thomas McCrae, 1929 Spruce Street, Philadelphia, Secretary.
California Medical Association, Yosemite National Park, May 18-21. Dr. Emma W. Pope, Balboa Building, San Francisco, Secretary.
Conference of State and Provincial Health Authorities, Montreal, Canada, June 4-5. Dr. Richard M. Olin, State Commissioner of Health, Lansing, Mich., Secretary.
Congress of Physicians and Surgeons of North America, Washington, D. C., May 5-6. Dr. W. R. Steiner, 646 Asylum Avenue, Hartford, Conn., Secretary.
Connecticut State Medical Society, Bridgeport, May 20-21. Dr. Charles W. Comfort, Jr., 27 Elm Street, New Haven, Secretary.
Georgia, Medical Association of, Atlanta, May 13-15. Dr. A. H. Bunce, 65 Forrest Avenue, Atlanta, Secretary.
Hawaii, Medical Society of, Honolulu, April 24-27. Dr. Forest J. Pinkerton, 43-46 Young Building, Honolulu, Secretary.
Illinois State Medical Society, Quincy, May 19-21. Dr. Harold M. Camp, Lahl Building, Monmouth, Secretary.
Iowa State Medical Society, Des Moines, May 13-15. Dr. T. B. Throckmorton, Bankers Trust Building, Des Moines, Secretary.
Kansas Medical Society, Topeka, May 5-7. Dr. J. F. Hassig, 804 Elks Building, Kansas City, Secretary.
Maryland, Medical and Chirurgical Faculty of, Baltimore, April 28-30. Dr. J. A. Chatard, 1211 Cathedral Street, Baltimore, Secretary.
Massachusetts Medical Society, Boston, June 9-10. Dr. W. L. Burrage, 182 Walnut Street, Brookline, Secretary.
Medical Library Association, Atlantic City, May 25-26. Miss H. Wilson, 535 N. Dearborn Street, Chicago, Secretary.
Medical Women's National Association, Atlantic City, May 25-26. Dr. B. M. Haines, Michigan Department of Health, Lansing, Secretary.
Minnesota State Medical Association, Minneapolis, April 27-29. Dr. E. A. Meyerding, 717 Commerce Building, St. Paul, Secretary.
Mississippi State Medical Association, Biloxi, May 12-14. Dr. T. M. Dye, McWilliams Building, Clarksdale, Secretary.
Missouri State Medical Association, Kansas City, May 5-7. Dr. E. J. Goodwin, 901 Missouri Theatre Building, St. Louis, Secretary.
National Association for the Study of Epilepsy, Richmond, Va., May 11-12. Dr. A. L. Shaw, 44 Church Street, Camden, N. Y., Secretary.
Nebraska State Medical Association, Lincoln, May 12-14. Dr. R. B. Adams, 1012 Terminal Building, Lincoln, Secretary.
New Hampshire Medical Society, Manchester, May 19-20. Dr. D. E. Sullivan, 7 North State Street, Concord, Secretary.
New Jersey, Medical Society of, Atlantic City, June 18-20. Dr. J. B. Morrison, 97 Halsey Street, Newark, Secretary.
New York, Medical Society of the State of, Syracuse, May 12-14. Dr. E. L. Hunt, 17 West 43d Street, New York, Secretary.
North Carolina, Medical Society of the State of, Pinehurst, April 28-30. Dr. L. B. McBrayer, Southern Pines, Secretary.

North Dakota State Medical Association, Fargo, May 18-19. Dr. Alex. J. McCannel, Minot, Secretary.
Ohio State Medical Association, Columbus, May 5-7. Mr. Don K. Martin, 131 East State Street, Columbus, Executive Secretary.
Oklahoma State Medical Association, Tulsa, May 12-14. Dr. C. A. Thompson, 308 Barnes Building, Muskogee, Secretary.
Radiological Society of North America, Atlantic City, N. J., May 22-23. Dr. M. J. Sandborn, 844 College Avenue, Appleton, Wis., Secretary.
Rhode Island Medical Society, Providence, June 4. Dr. J. W. Leech, 369 Broad Street, Providence, Secretary.
Society of Neurological Surgeons, New York, May 1-2. Dr. Ernest Sachs, Washington University Medical School, St. Louis, Secretary.
Southern Minnesota Medical Association, Owatonna, May 18. Dr. H. T. McGuigan, Red Wing, Secretary.
Texas, State Medical Association of, Austin, May 5-7. Dr. Holman Taylor, 207½ West 11th Street, Fort Worth, Secretary.
West Virginia State Medical Association, Bluefield, June 9-11. Mr. Sterritt O. Neale, 211 Smallridge Bldg., Charleston, Executive Sec'y.

ASSOCIATION OF AMERICAN MEDICAL COLLEGES

Thirty-Fifth Annual Meeting, held in Boston, March 5-7, 1925

DR. RAY LYMAN WILBUR, Stanford University, Calif., in the Chair

The Future Practitioner

DR. RAY LYMAN WILBUR, Stanford University, Calif.: The physicians of the next generation are now in the public schools. What is done for them or to them is in our control only so far as we interest ourselves in general education. We must necessarily prepare men more thoroughly and more rapidly for professional life than we have done heretofore. The great advance in medical knowledge and the peculiarity of the relationship between patient and physician, so that the very first patient coming to a young physician may be the one that demands superior knowledge and attention, makes it imperative that our young physicians be trained most thoroughly in essentials at the time they enter actively on medical practice. Since a physician must be world wise in order to be a satisfactory guide for many of his patients, it is necessary not only that he should have a first class preliminary and general college education but also that his medical training should have made use of his time so as to broaden his public and social conceptions. "It is wholly clear that the medical profession has a large number of men who are intellectually incompetent and who should not have been allowed to study medicine, or, having studied it, should not have been licensed as practitioners," is the statement made by Cobb and Yerkes, who reported the results of an intelligence test rating examination. They state further that "the intelligence of the medical officer is highly correlated with the standard of entrance requirements of the school from which he was graduated."

While a good brain is required, there are certain vocational adaptabilities on the part of those individuals particularly happy and most successful in the actual practice of medicine. Modern medical training, particularly when carried to a high degree of specialization, must necessarily prepare men for a great variety of occupations all having medicine as their foundation. The type of medical man we most require, the general practitioner, must have a certain physical and mental make-up to be a sucess. The more we study the personalities, abilities and successes of our fellow physicians, the more willing we ought to be to allow diversity in preliminary training, the more flexible we ought to make our medical school curriculum, and the more careful we ought to be in setting up rigid requirements of a specific sort. It would be a great advantage not only to the profession but also to those who were preparing to enter it if some form of test could be devised that would indicate vocational adaptabilities for medicine. If this could be combined with a study of individual qualities so that the student could be guided toward that field of medicine in which he could most succeed, it would be a great saving of time and a great advantage to the profession and to the public. If our psychologists are able to provide studies and data that will help a student to point himself, and if we can go still further and make segregations for the kinds of service open to men of medical training, we may be able to guide our prospective practitioners from a comparatively early period in their education clear through into some branch of the profession.

In medicine it is of more than ordinary significance to obtain men who really love their profession and like medical work. Stability, emotional control, acceptance of responsibility, high moral and spiritual qualities, are always essential for physicians and will continue to be in the future. Most outstanding of all is the necessity on the part of the physician to be able to see out from the other fellow's mind and give him help in solving his mental as well as his physical difficulties. The avoidance of uniformity in the qualities of medical men, and particularly of uniformity in their training, is most essential, that we may keep medicine serving all classes of the population. The general practitioner is coming back. No matter how far we may carry our specialization, how great our skill may become in special fields, it is inevitable that a large part of the care of the sick must be done by men of broad training, broad experience and broad perceptions. There is a better prospect for the general practitioner since the recent efforts to develop a sensible curriculum and to eliminate from the required medical courses the refinements of the specialties and the intensities of the laboratories.

SYMPOSIUM ON PREVENTIVE MEDICINE

Environmental Medicine: Medical Sociology

DR. CHARLES P. EMERSON, Indianapolis: The official family of the professor of internal medicine has grown until now it includes departments of the arts faculty. It has become almost a complete medical school. We now propose to add a clinical sociologist. The term medical sociology is almost self-explanatory; by environmental medicine we mean the study of, and the art of controlling or attempting to control, all those factors external to the patient's body which aid in the production of his diseases. About seven of each ten medical patients, while they may need medicine, perhaps operations as well, need also, if they are to recover, some social readjustment or emotional relief. For the last fourteen years, in Indiana, the medical students have been required to take a one semester hour course in this subject, the successful completion of which is as necessary for the medical degree as is any other course in the curriculum. Next, we organized a department of environmental medicine with a woman trained in sociology in charge, who should be one of the clinical medical team. She attends medical rounds with the students and assistants, and "does her bit" in the diagnosis and treatment of each medical case. She is not a social service worker in the general use of that term; she does not pick and choose her own problems any more than the clinical chemist, bacteriologist or roentgenologist does. Each is assigned his problem in each case. We desire as high a percentage of accurate diagnoses and of good therapeutic results as we can get, and to accomplish this we need a sociologist just as truly as we need a serologist or a roentgenologist.

We have in Indiana a very efficient social service department, which is doing fine work and of which we are proud. But the worker in environmental medicine does not belong to the social service department, but to the medical department, and she works with a different method and aim. Her reports become a part of the patient's record in the same manner in which each laboratory record or the record of each consultation becomes a part. The object of this department is educational, and the work is of value in training our students. It emphasizes the importance of the problem of each individual patient; they are individuals, not names on a lot of laboratory report sheets, and it teaches the value of thorough diagnosis and treatment. Practical work in this field will convince the student that we cannot consider our duty done when the patient leaves the hospital. Proper social readjustment results in less suffering and longer life, and the hospitals will save money by removing the necessity for repeated hospitalization. The plea of the department of environmental medicine is to conserve the work done for patients in the wards and so prevent its waste. This cannot be done nearly as well by social service departments that work independently as by those immediately under the control of the medical staff. Under this department come the occupational diseases, the later care of all patients with injured hearts, of chronic

arthritis, chronic nephritis, etc. Climatotherapy also comes under this head, occupational therapy, and readjustment of necessary occupations in the case of so many neurasthenics and psychasthenics who have been "miscast" in life. Here we also study the relation of house infection to diseases; administration of the modern public school system; much of the so-called public health and sanitation as applied to the individual rather than to the community; the importance of water and food borne infections.

Under the title medical sociology we consider the ways and means of financing a patient's convalescence in order to allow him sufficient time to recover strength before he resumes his work. This is our business, since we propose to get patients well, and a poor convalescence may ruin our hard work. Here the state worker is invaluable. She visits the community where the patient lives, and before he returns has organized his relief for him. Another subject of medical sociology which should be required of our students is the study of the various public institutions for the relief of physical and mental cases. The students should also know more or less about the various charitable organizations from which the poor get relief. Our object is not to make medical students uplifters, reformers, etc. We want to make them good physicians.

Psychiatry, Public Health and Medical Education

DR. ALBERT M. BARRETT, Ann Arbor, Mich.: Psychiatry is intimately a part of the field of public health and preventive medicine, and has many analogies in the scope of medical interests. It is no longer a division of medicine solely concerned with the problems of the insane and the more gross disorders of the mind. To maintain a well balanced attitude toward etiologic relations of diseae, it is essential to determine what part physical and what part psychic factors have in producing the situation confronting a physician in a problem of disease. It is in the reactions and disorders of the individual at the psychic level that psychiatry finds its problem. Apart from the directly medical aspects, psychiatry can contribute much toward the understanding of the personality of the patient as an individual in relation to the physician. The importance of the physician of an understanding of behavior is no where greater than in his contacts with children. It is in the childhood years that temperamental qualities and reaction trends are beginning to form the roots of what later will often become serious psychic or social disabilities.

The need of an adequate understanding of psychiatric medicine can be better appreciated as one becomes familiar with the extent to which mental disorders exist in our public life and are matters that in some way or other usually come at some time under the care of the physician. There are in this country more than 800 hospitals for mental disorders, and in these more than 343,000 patients are under treatment. The number of psychopathic hospitals is in the ratio of 220 to every 100,000 population. Each year more than 50,000 new cases of insanity are admitted to the hospitals. Each one of these patients will at the beginning of his illness be a patient of a physician who in most instances is in the general practice of medicine.

The extent to which mental abnormalities are determining factors in great social problems is equally impressive, and presents a comparatively recent point of view bearing on the treatment of these disorders, which has a direct medical appeal. Physical disease and mental abnormalities have an etiologic importance in the vast number of cases of dependence and social disability that come under the care of welfare and social relief organizations, and in the solution of these problems medical assistance must have a part. Psychiatry has a great deal to offer toward understanding the health and efficiency problems of school children and of employees in industrial life. How shall this knowledge be given in the course of training of the medical student and what should be its part in the medical curriculum? The fundamental purpose should be to give to the medical student an orientation and familiarity with what is known regarding psychic factors and mechanisms, and the relations these have to the human individual in health and disease; to give him an insight into behavior reactions to the experiences of life; to acquaint him with the technical methods necessary for the acquisition of the data essential for psychiatric understanding of the patient and how to interpret this; to give him an understanding of the more specific psychoses, reactions and clinical types and to train him in methods of treatment. In most instances, psychiatric instruction is limited to the last clinical year. The extent to which the instruction is developed is closely determined by the hospital facilities available. Experience has shown that the allotment of sixty hours by this association to psychiatry is adequate for undergraduate instruction. It places psychiatry in an equitable position among the other specialties, and permits of giving such subdivisions of the course as are needed to give a well balanced knowledge of psychiatric medicine that will meet the requirements of a practicing physician. In all psychiatric instruction, it is essential to keep psychiatric conceptions and interpretations in contact with the manifestations of disease in other clinical fields. It is in this relation that psychiatry will prove its greatest importance for the student and physician.

Education in Preventive Medicine in the Regular Curriculum

DR. HAVEN EMERSON, New York: It is true that in every one of the numerous special fields of public health effort progress in prevention depends on recognition by the physician of deviations from entire normality prior to the time when the apparently healthy individual suffers inconvenience, pain or disability. The full value of the already established facts of science will not be harvested without the active application of preventive medicine in the daily contact between the medical profession and the laity. Preventive medicine does not constitute a new or separate branch of medical learning; it is not a science or art apart from the sciences used in the diagnosis and treatment of the sick. The teaching of preventive medicine depends on an attitude of mind and calls for an altered emphasis or proportion in the elements of undergraduate medical education rather than constituting a mass or organized body of principles and facts for practice as a specialty of medicine. Anatomy, physiology and biochemistry offer at every point opportunities to learn the range of variation in the normal body and its functions. The subject of sanitation or environment as it affects human life is in large part properly presented through physiology and anatomy.

Preventive medicine grew to its present dimensions so largely through bacteriology that this major topic of the second year is properly considered a foundation stone quite on a par with anatomy and physiology; and one can hardly see how it can be offered without teaching health protection with every fact. Pharmacology is especially suited to a study of the individual and communal results of use and abuse of the habit-forming drugs. During the study of pathology, the chances to open the students' minds to the preventable aspects of disease are countless. From the moment that the student enters on clinical experience, there is not a topic or a case that is not susceptible of increased value, intellectually and for practical use, by having the preventive aspects featured in the teaching. Pediatrics and obstetrics might almost be considered primarily from the point of view of preventive medicine. Maternity, childhood, growth, reproduction, are the legitimate field of the most nearly ideal theory and practice of preventive medicine. A useful way to bring the question of prevention to an issue is to have the student report on the elements of the patient's history which probably contributed to present or approaching disabilities, leaving it for the teacher to supply the mass statistics that would indicate the relative incidence and importance of these factors. If every opportunity is used to teach the prevention of disease, defect and disability, and every occasion to study the forms and manifestations of health according to age, sex, condition, occupation and race with the same resourcefulness and determination that are applied in the discussion of the minutiae of disease and its end-results, there will be no need or excuse for a department of preventive medicine or

hygiene for medical undergraduates. Sanitation is worthy of inclusion in the education of medical students, whether by medically trained teachers or by others. Sanitary science as an essential for the intelligent practice of preventive medicine should be treated of during such hours as are set aside for public health in the curriculum. Preventive medicine is not to be embroidered on the texture of medical education, but will, when successfully introduced, be woven as a stronger, brighter design in the warp and woof of the great fabric which the medical sciences are weaving as a mantle of frail, erring, hopeful, ambitious humanity. It is not enough that each department shall mix prevention with cure, add the idea of health to that of sickness, view the normal as the object of medical solicitude as well as rouse ambition to unravel the secrets of disease. Specific appropriate supplementary information not generally familiar to teachers in the regular curriculum should be sought by them and be provided for them, chiefly out of the departments of sanitary science, vital statistics, epidemiology and public health administration. A department of public health is a desirable addition to a medical school.

Public health training can be done only after the undergraduate years; preventive medicine should be taught during them. It is my opinion that the period in the medical curriculum best suited to the presentation of those special phases of sanitary science, epidemiology and vital statistics and public health administration which cannot be included more appropriately in the teaching in the fundamental laboratory and clinical departments of the medical school is the fourth year, and that not more than sixty hours and not less than thirty should be allowed for lectures, demonstration and conference on these topics, preferably distributed throughout both semesters. An additional thirty hours of field observation, possibly during the summer vacation, is desirable.

Cooperative Plan of Teaching Preventive Medicine

DR. SAMUEL R. HAYTHORN, Pittsburgh: The medical school must train the student in preventive medicine. It is not necessary to make him a specialist, but he must have a broad conception of the principles of preventive medicine. He must be prepared to apply to disease prevention many facts gleaned during his medical education. He must understand the relation of preventive movements to medical ethics. He must be able to supervise the health educational work of nurses, welfare workers and others. The instruction in medical schools must be along two lines: the presentation of the broad, general principles of preventive medicine, and technical instruction in the use of specific preventive measures in relation to the respective diseases against which they are used. The first object may be accomplished by establishing a central or "key course" called preventive medicine. In medical schools associated with schools of public health, the problem may be solved by drawing on the faculty of the latter. But we should not make sanitarians or public health workers out of medical students. Where there is no associated school of public health, the quality of the "key course" becomes more important. There is scarcely a subject in the medical curriculum which does not present a method that can be used in disease prevention, and scarcely a disease which does not have a preventive phase. It is not possible to have specialists in prevention teach the preventive side of each disease. The man who should know the best preventive practices available is the man who is teaching the clinical aspects of it. Since there is a preventive side to every disease and there is no time to repeat all the courses in the curriculum from the preventive standpoint, the best time to teach prevention is when the other phases of the disease are being taught. The big thing in teaching the technical side of prevention as a part of clinical instruction is to have both the student and the teacher appreciate and sort out the things which are for treatment and those which are for prevention. The central, or "key course" is a continuation of Hygiene and is given in a series of fifty-five lectures in the junior year. The student is given an outline which is followed as closely as possible in discussing each disease as it is taken up. Next are taken up quarantine rules and regulations; industrial intoxications, municipal health, constitutional diseases, control of cancer, health examinations, relation of physician to social movements, social services and social agencies generally. The modern needs for supplying medical students with the essentials of preventative medicine may be met satisfactorily in any school in which the entire faculty of the last three years can be interested in including in discussion of prevention as one of the topics considered under each disease taken up. Publishers of the more important textbooks should be asked to include a paragraph on prevention under each disease, just as has been done with etiology, pathology and diagnosis. Until this is done, each instructor should write his own paragraph and append it to his teaching notes and in teaching give it equal prominence with the other headings considered. Where this is done, the idea of preventing disease may be kept constantly before the student.

The Teaching of Obstetrics

DR. J. M. H. ROWLAND, Baltimore: Obstetrics occupies at least 30 per cent. of the time of the general practitioner, yet only 4 per cent. of the total number of hours in the curriculum are allotted to this subject; surgery, which occupies much less than 10 per cent. of the practitioner's time, is given from 15 to 18 per cent. This distribution cannot be defended from any standpoint. Many obstetric emergencies might be avoided if sufficiently intelligent care were exercised during the prenatal period, the labor and the puerperium. Such can be secured only by the employment of well trained physicians, and these cannot be produced while the medical student is preparing for phases of practice which he, as a general practitioner, will seldom meet, and is being hurried through instruction which he badly needs. Not only are we devoting too small a proportion of our time to the teaching of obstetrics, but we are suggesting another step in the wrong direction by placing all required obstetrics in the third year. Two years are few enough to devote to the teaching of this important branch. Didactic instruction in obstetrics in the third year should consist of at least three hours a week throughout the year. Thirty hours should be devoted to manikin work, diagnosis, history writing, and the like. During the last half of the third year, the student should be required to attend the clinical lectures given to the senior class. This would require about 135 hours in the third year, exclusive of the time spent in viewing—not delivering—confinements. In the fourth year one clinical lecture a week throughout the year will emphasize and visualize manikin and didactic work. There should be group work in physical examination in wards and dispensary; more manikin work, and, finally, actual delivery of the required number of cases. Whenever possible, groups of students should see operative deliveries. In addition, we require short theses on hemorrhage, toxemias of pregnancy, infection, contracted pelvis or any other important condition previously discussed. It is my opinion that to devote less than 15 per cent. of the time of the last two years to obstetrics is a monumental mistake. This means 7.5 per cent. of the total number of hours. I predict that the greatest advance in preventive medicine in the next decade will relate to the care of the child-bearing woman, and that this advance will be greater than in any other fifty years of medical progress.

Teaching of Physiotherapy

DR. W. H. MACCRACKEN, Detroit: There is great need for teaching medical students physiotherapeutics, its principles, application, value and limitations. This can be done best by the department of pharmacology and therapeutics. Associated with this teaching should be a series of experiments and demonstrations to show the physiologic phenomena that may be expected to accompany or follow the application of the particular physical therapeutic agent under consideration. These experiments would deal with temperature variations, changes in blood pressure, pulse rate and character, excretory activity, modifications of hydrogen ion content of the blood, and various other phenomena. Patients from ambulatory clinics are used to study methods of application and results of treatment.

Education

DR. A. LAWRENCE LOWELL, Boston: In order to exclude a bad type of medical college, we have been in the habit of insisting on certain provisions for admission which have done excellent work in driving out of business proprietary schools; but, having formed that shell to exclude the enemy, it is liable

to become cramping. Medical teachers complain that students are delivered to them ill trained for the study of medicine. I think that is the fault of your profession, for the colleges are giving what you ask for. You ask for credits, not for knowledge. All American education has been conducted on the basis of credits. There has been an assumption that it is a true measure of education. The result is overlooked. A great change is taking place in education in America. It consists in attempting to measure the result rather than the process. We have told the youth proposing to enter our medical school that he must take certain courses. Whether these have any connection with one another or whether the boy appreciates what their bearing is on medicine, we have not inquired. The tendency has been for the student to take these courses at the wrong time, and he enters the medical school after he has forgotten almost all about his chemistry, unless, indeed, he has devoted his whole time to science. There is only one true unit in education, and that is the student himself. He is the unit because he is the end—the only thing whose perfection is important. The course is only a means to that end, and should be judged only so far as it contributes thereto. The tendency for the professors, too, is that each one builds his own piece of work without much regard to the job as a whole. The only way of correcting that tendency is to test the unit, the student, when he gets through. Examine the building as a whole and see whether it is fit for its purpose and will endure. The student must be made to understand that at the end of his course it is his business to correlate all his facts and to understand their bearing on medicine as a whole. I believe that throughout education, from the primary school to the highest degree of the university, the point on which we should keep our minds is the total result on the student when he has finished, and not the process he is going through. It is much more in accordance with European precedent than it is with our own; but any one who has had forced on him by experience the belief that the curse of American education is the counting of credits for courses must consider this departure a wise one. If practicable, we should also do much better to examine our students on entrance to the medical school on some of the fundamental subjects that are needed—chemistry, physics and biology—than to require the passing of courses, for a smaller knowledge actually in hand at the moment is better than credits in an insolvent bank.

The Honors Course

DR. E. P. LYON, Minneapolis: Most students work satisfactorily at required tasks; the difficulty is to get them out of the beaten path. Our partial elective system has helped to some extent. The English honors course has attracted me. It stimulates the superior student. Further stimulation is accomplished by the requirements for the degree M.D. It is a university honor hedged about with special regulations, and is to be obtained only by special examinations. I have attempted to draw up regulations under which selected students could be freed from the required curriculum and be permitted to pursue medical studies under an adviser in accordance with their own desires and powers. The committee on honors students is in charge. Students petition for admission to the honors course; the committee must approve and endorse to the administrative board, which will readjust the curriculum for the petitioner. Students whose petitions are approved are known as honors students, and pursue their medical studies in such order and manner as they may determine, subject to the approval of their respective advisers. Each year a program of work approved by the adviser is made out and filed with the committee. Special regulations are made with regard to kind and quality of work, time of and nature of examinations. Provision is also made to penalize for unsatisfactory work, the student being required to return to the regular curriculum. In this country the M.D. degree is a purely professional title. It stands for technical proficiency but not for scholarship. At Minnesota and in some other schools, the degree is used to attest a year of internship in addition to the four years of the traditional medical course, which is a year of technical practice. The M.D. degree does not stand with the Ph.D. or D.Sc. as indicative of mastery of any field of knowledge. If this association and the American Medical Association would work together, in less than ten years the M.B. degree could be made the practitioner's degree and the M.D., backed up by proper requirements and examinations, could be made the real distinction and mark of scholarship and power it ought to be.

Full Time: The Letter or the Spirit?

DR. FREDERICK T. VAN BEUREN, JR., New York: This article will appear in full in THE JOURNAL.

Cooperative Plan in Medical Education

DR. NEWTON EVANS, Loma Linda, Calif.: In our medical school we are this year trying an experiment on our first year students. It is based on cooperative education, a plan that has been in use in the University of Cincinnati School of Engineering for about twenty years. It is intended to help the students financially as well as educationally. The emphasis of school work is on theory and principles. The practical work that they will do outside the school brings them into close touch with actual medicine as practiced. To carry out the plan, we have lengthened our school year to eleven months, have increased the course from four to five years, thus meeting legal requirements and giving us plenty of time to do what we intend to do. We have divided the freshman class of ninety students into two groups of forty-five students each. One group spends the calendar month working in a hospital or sanatorium; the other group spends the month in school. At the end of the month, the two groups change places. Of the forty-five students who are working outside, seventeen are orderlies or general nurses, five are pharmacists' assistants, five pairs are working in hydrotherapy treatment rooms, six are working as technicians in clinical laboratories, three are working in the pathology and bacteriology laboratories; others are working as roentgen-ray technicians; some are working in receiving offices; some are on the ambulance and some are assistants in physicians' offices. We have placed these students very easily; in fact, we can find opportunity for four times as many as we have. The crux of the plan as to making it a success is the work of the so-called coordinators. The work these students are doing outside must be a means of teaching medicine, and in order to do this there must be teachers who are medical men and are spending their time with these students in the hospitals and elsewhere, talking with them and helping them. We have them write essays, themes on some subject of contact, some experience they have had, some patient they have met. These papers are corrected and are read by the students to a group of their classmates during the so-called coordination classes while they are in school during their month of school work. From the students' point of view, the plan is a decided success, financially and educationally. They find that they learn things that they could not learn otherwise; they advance more rapidly in their medical knowledge. They save money. Physicians who have come in contact with the boys find that they have profited much from this work. They are away ahead of their fellows in the other years who have not had this opportunity. They receive a medical education that is more effective than under the old plan. Things are fixed in their minds. They understand them better. It gives us a good chance to judge the student's adaptability for the practice of medicine. Thus far not a single objection has been raised to the plan.

Hospital-Medical School

DR. THOMAS ORDWAY, Albany, N. Y.: The construction of the hospital-medical school plant should be such that there is direct physical relationship, so that the laboratories of the school may serve the hospital needs, and the students and teachers go freely from wards and rooms of the hospital to the laboratories, and vice versa. The organization should provide such a relationship of trustees, committees, administrative board and medical board, that there never should be any conflict in the objectives of school and hospital. At the Albany Medical College and Albany Hospital the personnel of the executive committees is practically identical. The dean of the medical college is the chairman of the medical board of the hospital. The professors of the medical college are chiefs of the respective services in the hospital and dispensaries. Joint meetings of the medical board and the executive committee of the hospital are held, and weekly meetings of the dean or other representatives of the medical board with the hospital superintendent and executive committee of the hospital are planned.

Current Medical Literature

AMERICAN

The Association library lends periodicals to Fellows of the Association and to individual subscribers to THE JOURNAL for a period of three days. No foreign journals are available prior to 1920, nor domestic prior to 1923. Requests should be accompanied by stamps to cover postage (6 cents if one and 12 cents if two periodicals are requested).

Titles marked with an asterisk (*) are abstracted below.

American Journal of Syphilis, St. Louis

9: 1-211 (Jan.) 1925

*Treatment of Syphilis of Aorta. H. Schottmüller, Hamburg, Germany.—p. 1.
Syphilis. XVI. Localization and Fate of Sulpharsphenamin in Viscera; Penetration Into Central Nervous System. J. A. Fordyce, I. Rosen and C. N. Myers, New York.—p. 18.
Toxicity of Arsphenamin. C. N. Myers and H. B. Corbitt, New York.—p. 71.
*Diagnosis of Primary Syphilis by Culture. F. G. Harrison, Philadelphia.—p. 81.
*Syphilitic Ulcer of Small Intestine: Case. T. F. Riggs, Pierre, S. D.—p. 87.
Diagnosis of Hutchinson's Teeth. I. C. Sutton, Hollywood, Calif.—p. 94.
*Juvenile Paresis. C. Rosenheck, New York.—p. 96.
Condylomata Lata of Syphilis. H. Goodman, New York.—p. 101.
*Symptom Analysis in Paretic Neurosyphilis. K. A. Menninger and W. C. Menninger, Topeka, Kan.—p. 104.
Rupial Eruptions: Case of Unusual Size and Distribution. A. R. Fraser, Cape Town, South Africa.—p. 113.
*Wassermann Test. VI. Influence of Race and Nationality. D. L. Belding and I. L. Hunter, Boston.—p. 119.
*Id. VII. Blood Serum of Pregnant Women. D. L. Belding, Boston.—p. 132.
*Effect of Incubation on Kolmer's Test for Syphilis. R. A. Kilduffe and R. Thompson, Philadelphia.—p. 149.
Importance of Positive Fluctuation in Serodiagnosis of Primary Syphilis. H. E. Ahlswede, Hamburg, Germany.—p. 155.
*Results of Complement-Fixation Tests for Syphilis on Cerebrospinal Fluids. R. Gilbert and A. C. Moore, Albany, N. Y.—p. 160.
What Should Constitute Most Logical and Standard Wassermann Technic with Nonspecific Antigens? A. J. Hinkleman, Oklahoma City.—p. 173.
Treponema Pallidum Antigens in Wassermann Reaction. A. J. Hinkleman, Oklahoma City.—p. 181.

Treatment of Syphilis of Aorta.—Schottmüller's experience as to the value of intensive and long continued treatment of syphilitic disease of the aorta not only indicates the importance of beginning antisyphilitic treatment at the earliest possible date but also of pushing it until a definite result is obtained. Moreover, it illustrates the necessity of giving due consideration to even the slightest manifestations of the heart or of the vascular system, and this applies particularly to patients of an advanced age (the oldest patient, thus treated, died at the age of 68). Even though the Wassermann reaction is negative, every possible diagnostic aid, including the roentgen ray, should be employed to enable the making of an early diagnosis, for only an early diagnosis will make it possible to give adequate treatment and thus save a large percentage of cases. Since the advent of specific treatment, Schottmüller says, syphilitic aortitis should always be grouped under curable diseases.

Diagnosis of Primary Syphilis by Culture.—Cultures in twenty-four cases of primary syphilis as demonstrated by the dark field were taken by Harrison and eleven cases, or approximately 46 per cent., resulted positively.

Syphilitic Ulcer of Small Intestine.—In the case reported by Riggs, the ulcer was situated in the jejunum about 2 feet from Treitz' ligament. The ulcer involved nearly all the anterior or right wall of the bowel as it lay, and extended transversely, opposite the mesentery, to involve about two thirds of the posterior bowel wall. On each side of the ulcer, and gradually disappearing within 2 or 3 inches from the ulcer margins, was a definite thickening of the bowel wall. There was no visible peritoneal injection or exudate. The base of the ulcer was firm but not hard, and the margins were readily palpable as firm, sharp irregular walls. It was the transverse position of the ulcer, its firm margin, the surrounding area of deep induration without peritoneal irritation and the peculiar appearing large lymph nodes that suggested syphilis as the etiologic factor.

Juvenile Paresis.—Rosenheck reports two cases of juvenile general paresis and points out that it probably occurs more frequently than is generally supposed. A considerable number of cases are "formes frustes." Juvenile general paralysis is the product of a prolific and degenerate stock plus a congenitally acquired syphilis. The clinical picture of general paralysis in childhood or youth is rarely as typical as that of the adult. This is obviously due to the incomplete cerebral development and insufficient mental acquisitions. In man, however, the symptomatology differs very little from the adult form. Two marked features are, however, present in the juvenile form that are worthy of mention. These are the entire absence of grandiose ideas and early and progressive deterioration.

Symptom Analysis in Paretic Neurosyphilis.—An analysis made by the Menningers of the initial and presenting symptoms in 166 consecutive cases of paretic neurosyphilis yielded the following generalizations: Mental disturbances are more frequently the initial symptoms of paretic neurosyphilis than neurologic, and very much more frequently the immediate cause for bringing the patient to the hospital. With the exception of memory loss and depression, the first mental symptoms in paresis are usually not those which ultimately bring the patient to the hospital. Irritability, disposition change, and minor conduct disorders are more apt to be disregarded or tolerated outside the hospital. Of the mental symptoms, emotional disorders are much the most frequent initial symptoms, and intellectual disorders the most frequent hospitalizing symptoms. Of the neurologic symptoms, sensory function disturbances are the most frequent initial symptoms; as symptoms presenting on hospitalization, cranial nerve disorders, sensory function disorders, and motor function disorders are all nearly equal in frequency. The more severe neurologic symptoms (convulsions and ataxia) that bring the patient to the hospital occur infrequently as initial symptoms.

Influence of Race and Nationality on Wassermann Test.—Belding and Hunter state that the incidence of syphilis as indicated by a Wassermann survey varies with different races and nationalities, the greatest difference being found between the negro and white races. The negro as a class is an important source of error in the interpretation of the Wassermann survey and should be considered separately in making statistical comparisons. The percentage of positive Wassermann tests in pregnant women in Boston was 9.4 for the American of at least the second generation, 16.0 for the negro, and 7.7 for the Russian Jew. Collected statistics of Wassermann surveys, chiefly from the South, give 30.67 per cent. positive for the negro. According to birthplace, the foreign and Northern negroes gave 10.0, the Southern 27.1 per cent. The ratio of white to negro varies from 1:1.67 to 1:2.48. The authors' ratio, 1:1.76, is approximately the same. The low incidence of syphilis among the Russian Jews, 7.7 per cent., is explained by the more protected family life, a condition rapidly being changed by Americanization. Americans engaged in trade gave the lowest percentage of positives, 4.6. Negroes employed in domestic and personal service have a lower incidence than those in manufacturing and mechanical occupations, 7.6 versus 18.4 per cent. Negro chauffeurs are particularly high, 55.5 per cent. Jews in manufacturing and mechanical occupations gave a lower percentage than those in trade, 6.4 versus 9.8. The clinical reaction of the three races varies, the Jew giving the least and the negro the greatest response. These statistics indicate that clinical evidence of syphilis is 1.8 times as frequent in the negro as in the white races. In nonsyphilitic multiparas, the proportion of previous fetal deaths to total conceptions is greatest in the negroes and least in the Jews. The increase above the negative rate in the positive negroes is 2.2 times the average. The negative negro gives the smallest percentage of children surviving the first few years of life. The positive negro shows a marked decrease, about one-half the ratio for the white races, indicating the disastrous effect of syphilis on the reproductive capacity of the negro.

Wassermann Reaction of Pregnancy Blood Serum.—Belding states that in nonsyphilitic pregnant women, a variable

positive reaction may result from the anticomplementary action of the serum and from nonsyphilitic fixation. As a rule, these reactions are weaker and more fleeting than the syphilitic positives, but no means of differentiating between syphilitic and nonsyphilitic fixation in weakly positive cases is shown.

Effect of Incubation on Kolmer's Test.—The results obtained with 300 serums tested by Kolmer's quantitative complement-fixation test for syphilis, using three different methods and periods of primary incubation, are reported, compared and analyzed by Kilduffe and Thompson, as a result of which it is concluded that the overnight (sixteen to twenty hour) period of primary incubation in the ice chest at from 6 to 10 C., as advocated by Kolmer, is the most suitable method of primary incubation, it gives a greater number of positive reactions and more definitely indicating quantitative gradations in their strength.

Complement-Fixation Reaction in Cerebrospinal Fluid.—The results of observations made by Gilbert and Moore indicate that the complement-fixation reaction in cerebrospinal fluids is an important diagnostic aid. It is necessary to test as large an amount of fluid as 0.2 c.c. (2.0 c.c. in terms of the original Wassermann test). There is no marked correlation between fixation of complement in cerebrospinal fluid and increased globulin and cell counts.

American Review of Tuberculosis, Baltimore

10: 633-728 (Feb.) 1925

*Anticipatory Detuberculization. R. Philip, Edinburgh.—p. 633.
Home Hospital: Experiment in Treating Tuberculosis as Family Problem. J. A. Miller and J. C. Gebhart, New York.—p. 639.
Mutation of Pulmonary Shadows Due to Type of Breathing. H. A. Bray, Ray Brook, N. Y.—p. 649.
Comparison of Schulte-Tigges and Ziehl-Neelsen Methods of Staining Tubercle Bacilli. O. M. Mills and P. L. Kendrick, Lansing, Mich.—p. 656.
*Value of Percussion in Demonstration of Pulmonary Anatomic Changes. P. M. Andrus, London, Ont.—p. 659.
Reactions Resulting from Intracutaneous Injection of Tuberculous and Other Pathologic Urines. G. G. Ornstein and M. M. Steinbach, New York.—p. 668.
*Tuberculosis Immunity. I. Diagnostic and Sensitizing Properties of Some New Derivatives of Tuberculin. F. C. Eberson, Minneapolis.—p. 681.

Anticipatory Detuberculization.—Anticipatory detuberculization is a term coined by Philip to describe a procedure adopted by him. Assuming that one member of a household is found to be suffering from evident tuberculous disease, the injunction is that every member of the family, and conspicuously every child, should be subjected, in addition to a clinical examination, to a tuberculin test, and the result carefully noted. In many cases a positive result will be obtained at the first test. In the event of a negative result, the procedure will be repeated after a given interval and again, say, every three or six months, until a positive result is obtained. The date of the latter should be registered. So convinced is Philip as to the high value of the determination for the after-history of the individual, that he believes the procedure should be regarded under present conditions as a routine duty in respect of children from early infancy onward. After tuberculization has been determined, there arises the question of anticipatory detuberculization. The child is tuberculized. Henceforward his environment, in the largest sense, will be reviewed from that point of view. Apparent delicacy and actual illness will be interpreted in the light of the knowledge at hand. Clinical observation will be quickened and sharpened. Nutrition will be watched, and growth will be followed with awakened interest. The child's glandular and neuromuscular systems will be viewed with care. At stated intervals the developing child will be overhauled, with the fact of his tuberculization in mind. In this way the first buddings of tuberculous disease will not fail to be detected. Philip's practice has been to institute treatment by tuberculin, tentatively, at the date when the fact of tuberculization is first established, and particularly later when, along with a positive tuberculin reaction, there is clinical evidence of tuberculous disease, even if this is slight in degree; for instance, minor enlargement of lymph nodes, muscular dystrophy and hypotonus, and disturbance of nutrition. Tuberculin treatment for this purpose is carried out by the percutaneous method, as recommended by Philip in 1923. The results of continued observation during the last fourteen years have satisfied him as to the value of the percutaneous exhibition of tuberculin. Having determined by the percutaneous test that the child is tuberculized, the percutaneous exhibition is continued week by week or at such intervals as the circumstances indicate. The beneficial influence, the detuberculizing effect, is not limited to obvious foci, but extends more widely through the system. It is manifested by general improvement in health and education. Indications of malnutrition and muscular dystrophy are replaced by the healthy aspect and increased size and tone of the muscle. The neuromuscular system is disintoxicated. Gain in weight from week to week is commonly registered in cases in which previously the weight had been decreasing or stationary.

Value of Percussion to Demonstrate Pulmonary Changes.—Andrus insists that percussion findings must be interpreted in terms of underlying pathologic change with great caution, even when accompanied by structural or (other than râles) auscultatory changes. The significance of percussion findings as indicators of underlying anatomic changes may be estimated in order of value as in the section on clinical applications.

Tuberculosis Immunity.—Three derivatives have been prepared by Eberson from human O. T. and have been shown to be potent and capable of eliciting typical skin reactions in tuberculous guinea-pigs. The derivatives of tuberculin also have definite sensitizing properties, which can be demonstrated in healthy animals as well as in those which have been infected with both human and bovine tuberculosis. Evidence is adduced to show that an initial state of hypersensitiveness may progress to that of a definite resistance or immunity. The experiments suggest that there is a relation between immunologic specificity and chemical structure of antigens which can be applied to tuberculins for the purpose of diagnosis and sensitization. As a corollary to these findings, evidence at hand points to the isolation of an active principle and a possible interpretation of the mechanism of the tuberculin reaction.

Annals of Clinical Medicine, Baltimore

3: 517-563 (Feb.) 1925

Scarlet Fever. G. F. Dick and G. H. Dick, Chicago.—p. 517.
*Size of Normal Aorta. A. E. Fossier, New Orleans.—p. 525.
*Paroxysmal Tachycardia with Multiple Foci of Stimulus Production. F. A. Willius, Rochester, Minn.—p. 537.
Peripheral Vascular Mechanism. C. S. Danzer, Brooklyn.—p. 544.

Size of Normal Aorta.—Fossier has found that the transverse diameter of the arch of the aorta corresponds to a line drawn from or near the midsternal line and ending approximately 0.5 cm. to the left of the left border of the sternum. The size of the normal aorta is dependent on the stature, position of diaphragm and the chest conformation. The correlation of the normal size of the aorta and the ascending vena cava to the size of the sternum is generally constant, and is the only practical determinator of the size of the normal aorta.

Paroxysmal Tachycardia with Multiple Foci of Stimulus Production.—The case reported by Willius is of unusual type in that there were multiple foci of cardiac stimulus formation, which evoked sudden and abrupt transitions in the cardiac mechanism. The first abnormal mechanism consisted of at least two foci of ectopic impulse formation in the left ventricle, which suddenly shifted to a point in the auricle with the abrupt onset of auricular flutter, with slowing of the ventricular rate. As the result of increasing degrees of block, the inception of sinus rhythm occurred very soon, followed by the development of auriculoventricular rhythm, with a progressive slowing of the ventricular rate. The patient received 0.8 gm. daily of quinidin sulphate, which proved a sufficient dosage to prevent the attacks of paroxysmal tachycardia. Up to the present time, the patient has remained entirely free from recurrent attacks.

Archives of Occupational Therapy, Baltimore

3: 423-499 (Dec.) 1924

Coordination of Adjunct Therapeutic Measures in Treatment of Mental Patients. G. C. H. Burns, Philadelphia.—p. 433.
Psychiatric Approach to Occupational Therapy. M. O'Malley, Washington, D. C.—p. 447.
Statistical Records of Occupational Therapy. A. S. Moore, Middletown, N. Y.—p. 453.

Arkansas Medical Society Journal, Little Rock

21: 175-191 (Feb.) 1925

Renal Hematuria: Cases. J. W. Butts, Helena.—p. 175.
Influence of Focal Infection on Pulmonary Tuberculosis. H. C. Dorsey, Fort Smith.—p. 178.
Parkinsonian Syndrome Following Lethargic (Epidemic) Encephalitis. G. B. Fletcher, Hot Springs.—p. 181.
Morphin, Scopolamin, Seminarcosis in Labor. S. C. Grant, Mulberry. —p. 183.

Boston Medical and Surgical Journal

192: 469-518 (March 12) 1925

Objective Determination of Gonad Failure in Male. A. W. Rowe, Boston.—p. 477.
Endocrine Therapy in Gonad Failure in Male. C. Lawrence.—p. 480.
Congenital Teratoma of Orbit. J. J. Corbett, Boston.—p. 484.
*Winter Itch (Pruritus Hiemalis). W. J. Macdonald, Cambridge.—p. 489.

Treatment of Winter Itch.—McDonald has used the ultraviolet light and roentgen ray in the treatment of winter itch, with prompt recovery after several exposures. He has found ointments usually disappointing. A mildly phenolized olive oil he finds is as efficient as almost any other antipruritic application.

Georgia Medical Association Journal, Atlanta

14: 45-88 (Feb.) 1925

Vegetative Nervous System in Health and Disease. J. C. Weaver, Atlanta.—p. 45.
Frequently Overlooked Conditions of Urinary Tract. C. D. Whelchel, Gainesville.—p. 53.
External Pachymeningitis Simulating Purulent Leptomeningitis. W. L. McDougall, Atlanta.—p. 56.
Pleural Effusion. C. H. Holmes, Atlanta.—p. 59.
Industrial Hernia. K. McCullough, Waycross.—p. 61.
Inflammatory Bladder Diseases. S. A. Kirkland, Atlanta.—p. 64.
Neglected Prostate. C. H. Watt, Thomasville.—p. 67.
Ureteral Calculus Bilateral, with Time Check on at Least One Stone. C. K. Wall, Thomasville.—p. 69.

Indiana State Medical Association Journal, Ft. Wayne

18: 49-88 (Feb. 15) 1925

Actinotherapy. E. N. Kime, Indianapolis.—p. 49.
Hyperthyroidism. G. W. McCaskey, Fort Wayne.—p. 51.
Traumatic Brain Abscess. Case. M. F. Porter, Fort Wayne.—p. 56.
Congenital Absence of Sternum. F. R. Carter, South Bend.—p. 57.

Journal of Biological Chemistry, Baltimore

63: 1-178 (Feb.) 1925

*Plasma Lipoids in Experimental Anemia. W. R. Bloor, Rochester, N. Y. —p. 1.
*Uric Acid Determinations in Blood. F. M. R. Bulmer, B. A. Eagles, and G. Hunter, Toronto.—p. 17.
*Effect of High Fat Diets on Content of Uric Acid in Blood. V. J. Harding, K. D. Allin, B. A. Eagles and H. B. van Wyck, Toronto.—p. 37.
Adsorption of Indicator (Cresol Red) by Serum in Spectrophotometric Determination of Hydrogen Ion. E. F. Hirsch, Chicago.—p. 55.
Mechanism of Water Intoxication. F. P. Underhill and M. A. Sallick, New Haven, Conn.—p. 61.
*Protein in Edible Portion of Orange. A. H. Smith, New Haven, Conn. —p. 71.
Phosphorus, Calcium and Alkali Reserve of Blood Serum of Normal and Rachitic Chicks. C. W. Ackerson, M. J. Blish and F. E. Mussehl, Lincoln, Neb.—p. 75.
Oxidation of d-2 Mercaptobutane to d-Butane-2-Sulphonic Acid; Rotations of Salts and Free Acids of Thio- and Sulphocarboxylic Acids. P. A. Levene and L. A. Mikeska, New York.—p. 85.
Configuration of 2-Aminohexonic Acids and of 2-Aminohexoses. P. A. Levene, New York.—p. 95.
*Reproductive Potency of Dry Milk as Affected by Oxidation. G. C. Supplee and O. D. Dow, New York.—p. 103.
Presence of Antiscorbutic Substance in Livers of Chickens Fed on Scorbutic Diets. C. W. Carrick and S. M. Hauge, Lafayette, Ind.—p. 115.
Strophanthin. VI. Anhydrostrophanthidins and Their Behavior on Hydrogenation. W. A. Jacobs and A. M. Collins, New York.—p. 123.
New Set of Buffer Mixtures That Can Be Prepared Without Use of Standardized Acid or Base. I. M. Kolthoff, Utrecht, Holland.—p. 135.
*Mineral Deficiencies of Milk as Shown by Growth and Fertility of White Rats. A. L. Daniels and M. K. Hutton, Iowa City.—p. 143.
Colorimetric Determination of Tryptophane by Vanillin-HCl Reaction and Quantitative Separation from Indole and Skatole. I. Kraus, Chicago.—p. 157.

Plasma Lipoids in Experimental Anemia.—The outstanding feature of the lipoids of anemia as compared with normal plasma was found by Bloor to be the increased percentage and degree of unsaturation of the fatty acids, which is in general agreement with the somewhat irregular results in the literature regarding the blood lipoids in anemia. The differences are most marked in the lecithin fraction and in the fat. The unsaponifiable matter is increased, but to a less extent than the fatty acids. The significance of the increase of unsaturated acids is difficult to determine, but this increase is the result and not the cause of the anemia.

Uric Acid Determinations in Blood.—The evidence obtained experimentally leads Bulmer, Eagles and Hunter to conclude that there is a substance other than uric acid present in the blood of the rabbit, dog, cat, guinea-pig and ox, which interferes with any direct method for the estimation of uric acid in such bloods; the same or a like substance is present in variable amounts in human blood, and the presence of such a substance renders unreliable the values for uric acid obtained by any direct method of estimation with the reagents now used for that purpose.

Effect of High Fat Diet on Blood Uric Acid.—Harding and others found that diets sufficiently high in fat to produce ketosis result in an increase in the uric acid content of the blood. A carbohydrate or protein diet lowers blood uric acid, raised by a high fat diet, to its normal level. The increases in blood uric acid produced by a high fat diet can partly be accounted for by a decreased blood volume with a consequent decreased elimination. In 50 per cent. of the cases, however, such an explanation would appear insufficient to account for the magnitude of the increase in the blood uric acid.

Protein in Orange.—Smith's experiments indicate that the protein found in the pulp of the orange is distinguished from any of the conventional classes of proteins by its unusual solubilities. Since the precipitation point of this protein is p_H 4.7 and the p_H of orange juice is 4.3, it follows that under ordinary conditions the protein is insoluble within the fruit. Although closely associated with the pigment, the protein is not apparently in chemical combination with it.

Oxidative Changes in Dried Milk.—The results of a preliminary investigation are reported by Supplee and Dow, wherein it is shown that oxidative changes which may take place under conditions prevailing in milk powder, stored in air over long periods, prevent reproduction. The same powder stored in deoxygenated air for the same period allowed normal reproduction and the rearing of young when fed in quantities varying from 23.3 to 35 per cent. of the ration. The same powder stored in an atmosphere of carbon results in the matter of reproduction than the powder stored in an atmosphere of air. Milk powder of the same brand made under the same conditions at the same time of year as that for the storage experiments, but held in an atmosphere of air for seven months, allowed reproduction and successful rearing of the young when fed as 41.7 per cent. of the ration. Successful reproduction and rearing of the young resulted when the butter fat, as supplied by the Just process dry milk, comprised from 2.8 to 5 per cent. of the ration, provided the milk powder had not been subjected to excessive oxidation after manufacture.

Mineral Deficiencies of Milk. — Experimental results obtained by Daniels and Hutton indicate that the nutritive deficiency of milk appears to be due to the fact that milk is low in certain inorganic substances necessary for the production of a new generation. The addition of from 7 to 10 gm. of soy bean powder to 1 liter of milk was effective in correcting this deficiency. The addition of the ash of the soy bean was also effective in correcting the deficiency. The addition to milk of those unusual mineral substances present in milk in low concentration, namely, manganese, fluorin and aluminum, together with sodium silicate, have resulted in the reproduction of five generations of normal young. These four salts, used alone or in combinations of two and three, were less effective in correcting the nutritive deficiencies of milk than was the mixture of four salts. The addition of aluminum, manganese, fluorin and silicon to a purified ration made to simulate milk, in the same concentration in which they

were used in milk, was without effect on the reproductive processes. It is suggested that failure may have been due to a lack of vitamin X in this mixture, or to too little of the added salts.

Journal of Infectious Diseases, Chicago

36: 109-243 (Feb.) 1925

Microbic Respiration. I. Compensation Manometer and Other Means for Study of Microbic Respiration. F. G. Novy, H. R. Roehm and M. H. Soule, Ann Arbor, Mich.—p. 109.
Id. II. Respiration of Tubercle Bacillus. G. F. Novy and M. H. Soule, Ann Arbor, Mich.—p. 168.
Clasmatocytes and Passive Immunity to Streptococcus Infection. VI. Streptococcus Infection and Immunity. F. P. Gay and A. R. Clark, New York.—p. 233.

Journal of Metabolic Research, Morristown, N. J.

4: 453-648 (Nov.-Dec.) 1924

Mineral Metabolism in Rats Under Influence of B and D Vitamins. C. Funk and A. Levy, Warsaw, Poland.—p. 453.
Chemistry of Cod Liver Oil. I. Effect of Hydrogenation on Vitamin Content. H. E. Dubin and C. Funk, New York.—p. 461.
*Id. Cod Liver Oil Concentrate Manifesting Both Antirachitic and Antiophthalmic Properties. H. E. Dubin and C. Funk, New York.—p. 467.
*Clinical Rickets: Results Obtained on Exposure to Sunlight and on Treatment with Cod Liver Oil or an Active Concentrate Prepared from Cod Liver Oil. L. Fischer, New York.—p. 481.
Feeding Experiments on Rats with Plants at Different Stages of Development. II. B. Harrow and F. Krasnow, New York.—p. 491.
Significance of Vitamins in Animal Nutrition. S. N. Ghose, Calcutta.—p. 499.
*Effect of Germanium Dioxid in Experimental Anemia and Action in Producing Kidney Injury. M. Bodansky and H. C. Hartman, Galveston, Texas.—p. 515.
Metabolism in Acetonemia of Milch Cows. B. Sjollema and J. E. Van Der Zande, Utrecht, Holland.—p. 525.
Effects of Intravenous Injection of Anisotonic Solutions on Blood Concentration. F. P. Underhill and J. B. Sigal, New Haven, Conn.—p. 535.
Rate of Absorption of Fluids by Different Routes. F. P. Underhill and H. W. Weinstein, New Haven, Conn.—p. 541.
Utilization of Fat in Animal Body. W. R. Bloor, Rochester, N. Y.—p. 549.
Thrice Cooked Vegetables for Diabetics. H. A. Stillman, Columbia, Mo.—p. 575.
*Diabetes. V. Acidosis. 7. Influence of Renal Ligations and Injuries on Ketosis. F. M. Allen.—p. 579.
*Id. 8. Influence of Renal Impairment in Phlorhizinized Dogs. P. B. Seibert and F. T. Jung, Morristown, N. J.—p. 607.
*Id. 9. Administration of Acetone Bodies and Related Acids. F. M. Allen and M. B. Wishart, Morristown, N. J.—p. 613.

Cod Liver Oil Concentrate.—By means of an acid extraction followed by saponification, obviating the necessity of handling large quantities of material, Dubin and Funk have prepared a concentrate from cod liver oil which in the crude state is 2,000 times more active than fresh cod liver oil, as regards both the antirachitic and the antiophthalmic vitamins. Thus, 1,000 gm. of fresh cod liver oil yields 0.5 gm. of crude active concentrate, a brown, syrupy mass which, on standing, crystallizes in light yellowish brown needle-like crystals, radiating from a central point. On the elimination of cholesterol, the 0.5 gm. concentrate is reduced to 0.1 gm., a concentration of 1 in 10,000. Working with great care, it is possible to obtain a concentration of 1 in 15,000. Although the chemical composition of the concentrate has not been established as yet, the presence of carbon, hydrogen and oxygen has been demonstrated. Sodium, sulphur and phosphorus are absent, as are also the halogens. The sulphuric acid reaction is obtained just as with fresh cod liver oil. The concentrate is not toxic, even in very large doses. It may be mixed with sugar and compressed into 1 grain tablets equivalent to practically any desired dosage of cod liver oil. This offers an effective method of cod liver oil therapy, whether experimental or practical. Clinical experiments have shown that the concentrate is as effective in children as in animals. The authors believe that infants, as early as one month after birth, should be given cod liver oil if it can be tolerated; if not, the child should receive the equivalent of cod liver oil in the form of a concentrate, as a prophylactic against rickets and other nutritive disturbances traceable to the lack of fat-soluble vitamins in the diet. The adoption of prophylactic treatment will eventually mean the elimination of rickets as a factor in infant nutrition.

Treatment of Rickets.—Fischer is of the opinion that in the management of rickets the best results are obtained under a treatment combining proper food, cod liver oil and exposure to light. In the numerous cases in which fresh cod liver oil is not tolerated, an active concentrate prepared from cod liver oil, and free from the latter's disagreeable and objectionable features, may be used with success.

Effect of Germanium Dioxid on Kidney.—Bodansky and Hartman present evidence to show that germanium dioxid is injurious to the kidney glomeruli. Germanium dioxid does not appear to exert any beneficial effect in experimental anemia. Likewise, no significant changes in the blood have been observed in normal dogs and rabbits receiving germanium dioxid.

Effect of Kidney Injury on Ketosis.—Allen states that various forms of renal impairment (partial ligations of the vena cava, renal veins or arteries, ligation of ureters, partial or total nephrectomy) abolish or greatly reduce ketosis in phlorhizinized dogs and cats. Partial nephrectomy seems to be somewhat less effective than the other procedures which involve the entire kidneys. Similar results are obtainable in the ketosis of fasting puppies and (less positively) in depancreatized dogs. The phenomenon is not a mere blocking of acetone excretion, because ketonemia disappears simultaneously with ketonuria. The animals with partially ligated renal veins seem to acquire no increased ketolytic power, as judged by intravenous injections of acetone bodies. The changes in carbohydrate metabolism are among the most remarkable. The D:N ratios fall, hypoglycemia is placed by hyperglycemia, and the animals are apparently able to utilize the sugar which otherwise would have been excreted. Nevertheless, there are some indications that the reduction of ketosis may not be solely due to reduction of glycosuria but that some primary influence on ketogenesis may also be involved.

Reduction of Ketosis by Kidney Injury.—The reduction of ketosis after partial ligation of the renal veins was confirmed by Seibert and Jung by the quantitative analyses of acetone bodies in blood and urine.

Cause of Diabetic Coma.—On the whole, this investigation favors the view that specific intoxication with the acetone substances, together with an element of true acidosis, is the chief known cause of diabetic coma. The variable picture of coma, with sometimes stupor and sometimes dyspnea predominating, may be explained by the variations in these two factors.

Journal of Radiology, Omaha

6: 41-88 (Feb.) 1925

Basis for Actinotherapy in Hay-Fever and Asthma. A. R. Hollender and M. H. Cottle, Chicago.—p. 41.
Radiability of Gallstones. L. T. LeWald, New York.—p. 51.
Radium Treatment of Epithelioma of Face. W. H. Kennedy, Indianapolis.—p. 52.
Physiotherapy from Standpoint of Man in General Practice. B. H. Sherman, Dexter, Iowa.—p. 56.
Actinic Therapy in General Practice. M. Wood, Tekamah, Neb.—p. 59.
Treatment of Malignancy: High Voltage Roentgen-Ray Therapy. R. L. Smith, Lincoln.—p. 60.
Acute Necrotizing Gastritis with Inflammatory Mass in Cardiac Portion of Stomach. A. M. Pfeffer, Cleveland.—p. 62.

Kansas Medical Society Journal, Topeka

25: 33-63 (Feb.) 1925

Mental Conflicts and Physical Symptoms. M. S. Gregory, Dighton.—p. 33.
Treatment of Burns. M. Hogan, Wichita.—p. 35.
Diabetes. E. C. Duncan, Fredonia.—p. 37.

Laryngoscope, St. Louis

35: 87-180 (Feb.) 1925

Sphenopalatine Ganglion. S. L. Ruskin, New York.—p. 87.
Bone Conduction and Differential Test for Stapes Fixation. E. R. Lewis, Los Angeles.—p. 109.
Nasal Fibroma of Unusual Extent. L. DeV. Chipman, St. John, N. B.—p. 111.
Lymphangioma of Pharynx and Larynx. A. J. Huey, New York.—p. 113.
Giant Cell Sarcoma of Superior Maxilla. J. A. Morgan, Honolulu.—p. 115.
Obstruction of Main Bronchus. C. Bowers, Los Angeles.—p. 119.
Severe Burn of Mouth from Accidental Ingestion of Granulated Lye. P. P. Vinson and H. Moersch, Rochester, Minn.—p. 127.
Foreign Bodies of Dental Origin in Lungs (117 Cases). E. G. Gill, Roanoke, Va.—p. 129.

Foreign Body in Esophagus and Bronchus. M. E. Newman, Buffalo.—p. 157.
Improved Local Anesthesia for Bronchoscopy in Adults. M. C. Myerson, Brooklyn.—p. 159.
Waring Suction Tonsillectomy. F. W. Bailey, Cedar Rapids, Iowa.—p. 161.
Focal Infection and Arthritis. N. P. Stauffer, Philadelphia.—p. 165.
Suturing Instrument. E. P. Bughee, Detroit.—p. 169.
Method for Keeping and Carrying Local Anesthesia for Use in Anesthetizing Drumhead. P. S. Stout, Philadelphia.—p. 172.
New Tonsil Hook. N. Fox, Chicago.—p. 174.
Bronchoscopic Forceps for Balls, Marbles, Beads and Other Hard Globerular Objects. G. Tucker and L. H. Clerff, Philadelphia.—p. 175.

Maine Medical Association Journal, Portland

16: 19-37 (Feb.) 1925

Definite Program for 1925. F. C. Warnshuis, Grand Rapids, Mich.—p. 19.
Angiosclerosis of Retinal Vessels. E. E. Holt, Jr., Portland.—p. 22.
Early Diagnosis of Pulmonary Tuberculosis. W. C. Jensen, National Sanatorium, Tenn.—p. 25.

New York State Journal of Medicine, New York

25: 247-300 (Feb. 20) 1925

Medicine and Psychology. H. G. Matzinger, Buffalo.—p. 247.
Psychotherapy. G. K. Collier, Rochester.—p. 250.
Educating and Placing Out Mental Defectives. O. H. Cobb, Syracuse.—p. 252.
Relief Measures During Labor. H. W. Schoeneck, Syracuse.—p. 254.
Nervous and Mental States, Following Injuries to Head. D. E. Hoag, New York.—p. 260.

25: 301-354 (Feb. 27) 1925

*Recurrent Vomiting in Its Relations to Abnormalities of Gastro-Intestinal Tract. C. G. Kerley, New York.—p. 301.
Endocrine Therapy in Sterility. T. F. Donovan, Buffalo.—p. 305.
Treatment in Automobile Accidents. J. J. Moorhead, New York.—p. 313.
Community Nurse. F. G. Metzger, Carthage.—p. 319.

Recurrent Vomiting Caused by Gastro-Intestinal Abnormalities.—The cases of persistent digestive disorder in which serial roentgen-ray observations have been made by Kerley number 147. Considering the etiology of these cases, Kerley believes that it is the expression of a systemic intoxication from intestinal sources. Among the 147 patients were found, with few exceptions, structural abnormalities of the gastro-intestinal tract resulting in emptying delay of either the stomach or the intestine. Ptosed stomachs, stomachs that showed pylorospasm, ptosed and dilated cecums, V shaped transverse colons, and elongated and sacculated sigmoids were found in large numbers. The dilated rectum in association with a spastic sphincter has frequently been encountered. The management of these cases comprised abdominal support, a diet in which vegetables, fruits and cereals are used freely, abdominal massage and adequate elimination. Many children have enlarged, pendulous abdomens, with relaxed muscles. They are given support by means of the Nicholson universal supporter or the Bassler belt. In the long, angulated sigmoids the peristalsis is always defective. For these cases, massage is prescribed and the aromatic fluidextract of cascara sagrada is given in sufficient dosage, three times a day, to produce at least two free evacuations.

Occupational Therapy and Rehabilitation, Baltimore

4: 1-82 (Feb.) 1925

Relation of Occupational Therapy and Medicine. G. C. Robinson, Nashville, Tenn.—p. 1.
Occupational Therapy. D. K. Henderson, Glasgow.—p. 7.
Id. A. G. W. Thomson, Glasgow.—p. 17.
Id. D. Robertson, Glasgow.—p. 27.
Id. E. Brodie, Glasgow.—p. 35.
Id. In Mayo Clinic. B. Hardy, Rochester, Minn.—p. 37.
Public School Classes for Crippled Children. J. A. Neil, Chicago.—p. 47.
Male Occupational Therapist. L. J. Haas, White Plains, N. Y.—p. 53.

Philippine Journal of Science, Manila

26: 1-127 (Jan.) 1925

Essential Oil of Calantas Wood. W. L. Brooke, Manila.—p. 1.
*Chemical and Pharmacodynamic Investigation on Strophanthus Letei Merrill. A. H. Wells and F. Garcia, Manila.—p. 9.
*Complaints of Patients under Antileprosy Treatment. III. H. W. Wade.—p. 21.
Cycas Chamberlainii, N. Sp. W. H. Brown, Manila.—p. 47.
Philippine Bees. T. D. A. Cockerell, Boulder, Colo.—p. 53.
New or Little Known Water Striders from Oriental Region. T. Esaki, Fukuoka, Japan.—p. 57.
Tenebrionids (Coleoptera) of Indomalay. H. Gebien, Hamburg.—p. 67.
Herpetologic Fauna of Philippines. IV. E. H. Taylor, Manila.—p. 97.
Philippine Sharks. II. A. W. C. T. Herre, Manila.—p. 113.

Pharmacology of Strophanthus Letei.—The bark of the roots and stems of *Strophanthus letei* was found by Wells and Garcia to contain a saponin to the extent of 2.1 per cent. for the former and 0.9 per cent. for the latter. The compound is somewhat similar to pseudostrophanthin, but does not give tests for true strophanthin. This saponin, in the form of an amorphous, brown powder, is easily extracted by water and purified by the lead acetate method combined with repeated precipitations with ether. The amorphous powder slows the heart beat, increases the tone, and augments the heart contraction. The blood pressure is raised by the drug in animals, the rise lasting about thirty minutes. The depth and rate of respiration are increased by a large dose of the drug. All the effects mentioned are obtained by subcutaneous, intramuscular and intravenous injection. By mouth, the drug produces emesis a few minutes after administration. Solutions of the powder from 0.4 per cent. and below produced no hemolytic effect, but hemolysis is produced with a solution of 0.6 per cent. and above. By the use of the biologic assay cat method, the powder was found to possess one-twentieth the strength of ouabain.

Creosote and Chaulmoogra Oil in Leprosy.—Plain chaulmoogra ethyl esters are again shown by Wade to be decidedly the least favorable of the preparations used as regards treatment factors, frequency of total complaints, and most of the complaint types. The addition of creosote (10 per cent.) to plain chaulmoogra ethyl esters reduces the local irritation to almost, though not quite, the same degree as does 0.5 per cent. iodin, and permits increased medication. The simple iodized drug is somewhat, though not markedly, better than the simple creosoted form as regards amount of medication and frequencies of complaints. Which is to be preferred will depend on a comparison of the therapeutic effects. The combination of creosote and iodin has no distinct advantage and has certain disadvantages because of which its use is not justified unless it has an unexpected therapeutic superiority. The only noteworthy drawback for the creosoted preparations is an apparently greater tendency to cause respiratory tract irritation.

Public Health Journal, Toronto

16: 51-100 (Feb.) 1925

Teeth in Olden Times. W. R. Riddell.—p. 51.
Results of Series of Schick Tests. H. McClelland.—p. 66.
Problem of Tuberculosis Among Toronto Children. H. C. Cruikshank, Toronto.—p. 71.
Tuberculosis Among Indians of Norway House Agency. E. L. Stone, Manitoba.—p. 76.

South Carolina Medical Association Journal, Greenville

21: 29-56 (Feb.) 1925

Underactive Thyroid. W. H. Higgins, Richmond, Va.—p. 31.
Benign Tumors of Small Intestine Causing Intussusception. H. S. Black, Spartanburg, S. C.—p. 37.

Southwestern Medicine, Phoenix, Ariz.

9: 45-88 (Feb.) 1925

Prognostic Influence of Surgery on Sanatorium Tuberculous Patient. W. Ruffin and F. J. Nordby, Fort Bayard, N. M.—p. 45.
Diagnostic Difficulties in Right Abdomen. A. L. Blesh, Oklahoma City.—p. 52.
Enuresis. M. K. Wylder, Albuquerque.—p. 57.
Urologic Problems of General Practitioner. R. V. Day and H. W. Martin, Los Angeles.—p. 60.
Stricture of Ureter. W. R. Jamieson, El Paso.—p. 64.
Acute Osteomyelitis. J. Vance, El Paso.—p. 68.

Tennessee State Medical Association Journal, Nashville

17: 305-335 (Feb.) 1925

Arteriosclerosis: Diagnosis and Prognosis. R. A. Douglas, Huntingdon.—p. 305.
Appendicitis. C. Hendley, Paris.—p. 308.
Typhoid Fever with Purpura; Acute Lymphatic Leukemia with Enlarged Thymus. W. T. DeSautelle and R. B. Wood, Knoxville.—p. 313.
Syphilis. J. E. Hall, Nashville.—p. 319.
Fractures in Industrial Injuries: Colles Fracture. H. Cox, Nashville.—p. 324.
Operative Technic in Certain Cataract Operations. J. M. Hogshead, Chattanooga.—p. 326.
End-Results in Intranasal Sinus Operations. S. Lawwill, Chattanooga.—p. 327.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

British Journal of Anesthesia, Manchester

2: 53-96 (Oct.) 1924

Anesthesia and Blood Reaction. C. D. Leake.—p. 56.
Administration of Ether by Perhalation Method. A. Ogston.—p. 76.
Combined Endotracheal Pump and Suction Apparatus for Anesthesia. C. L. Hewer.—p. 83.

British Journal of Medical Psychology, London

4: 273-351 (Feb. 28) 1925

Vera; Study in Dissociation of Personality. A. G. Ikin.—p. 273.

British Medical Journal, London

1: 489-540 (March 14) 1925

*Surgical Treatment of Gastroduodenal Ulceration. C. A. Pannett.—p. 489.
Treatment of Infantile Paralysis. E. W. H. Groves.—p. 492.
*Rheumatic Infection. M. Bertram.—p. 496.
*Ovarian Tumors Complicating Pregnancy, Labor and Puerperium. H. R. Spencer.—p. 500.
Time-Saving Methods in Diabetic Urinalysis. F. T. Grey.—p. 502.
*Treatment of Diabetes by Raw Fresh Pancreas. T. J. Hollins.—p. 503.
Preventive Medicine of Ear. S. Hastings.—p. 504.
Practical Points on Pelvic Pain. A. E. Chisholm.—p. 505.
Diplopia in Lethargic Encephalitis. E. R. Chambers.—p. 507.
Paroxysmal Tachycardia in 8 months' Old Infant. J. L. O'Flyn.—p. 507.
Avulsion of Parturient Uterus: Case. F. J. Baildon.—p. 508.
Concurrent Herpes Zoster and Varicella. R. C. T. Evans.—p. 508
Severe Dermatitis Produced by Thiazoles. R. F. Hunter.—p. 509.

Surgical Treatment of Gastroduodenal Ulceration.—Pannett emphasizes these points: The primary treatment of gastric and duodenal ulceration is always medical. Surgery is indicated when medical treatment has failed, or, in recent cases, when a large ulcer crater is demonstrable by roentgenogram. It is probably true to say that medical measures can be continued with advantage longer in the case of duodenal than in gastric ulceration. For ulcer of the lesser curvature, away from the pylorus, sleeve resection is the operation of choice. For ulcers of the lesser curvature close to the pylorus or ulcers at the pylorus, excision of the affected portion of the stomach, including the sphincter, followed by axial union, is best. For cicatrized pylorus following a healed ulcer, pylorectomy is preferable, but gastrojejunostomy gives very good results. For ulcer of the duodenum it is not decided yet whether resection of the duodenum with its attending increased risks gives results so much better than gastrojejunostomy that it should replace the short-circuit operation.

Rheumatic Infection.—The records of 141 cases of rheumatic infection are analyzed by Bertram. The patients were examined from one to eleven years after the first attack. No case occurred during infancy; 60 per cent. of patients were from 6 to 10 years of age at the onset of the rheumatism. Girls were affected more frequently than boys. The disproportion was most marked in the case of chorea (3:1). Arthritis was most prevalent in October and November (32 per cent.); chorea in February and November (32 per cent.). As regards the lesions, 76 per cent. had carditis; 73 per cent. arthritis; 47 per cent. chorea; 28 per cent. tonsillitis; 7 per cent. subcutaneous nodules, and 6 per cent. skin lesions. With regard to cardiac involvement, 6 per cent. had marked cardiac disability; 41 per cent. slight disability; 9 per cent. had carditis without disability, and 24 per cent. had no cardiac involvement. Of the total cases, 20 per cent. of the patients died; 25 per cent. of the fatalities were within three months; 57 per cent. within one year, and 75 per cent. within two years from the onset of rheumatism. Pericarditis and subcutaneous nodules were the lesions indicating most severe infection. Early hospital treatment diminished the incidence and severity of carditis. Treatment was more effective in preventing carditis in arthritis than in chorea. Chorea patients treated with sodium salicylate had a lower incidence of subsequent carditis than those treated with arsenic, sedatives, or rest without drugs.

Ovarian Tumors Complicating Pregnancy.—Spencer is convinced against the advisability of operating in these cases in the second half of pregnancy, except at term or during or after labor; for parovarian cysts in the pelvis, cesarean section may be advisable, though rarely necessary for benign nonadherent ovarian cysts.

Feeding Raw Pancreas in Diabetes.—Hollins asserts that raw pancreas seems to do all that insulin does in a diabetic case, while it is free from the grave risks attendant on the use of insulin (for example, hypoglycemia). While so far he has not used it in a sufficient number of cases to claim that it is a complete substitute for insulin, the facts collected point in that direction. It renders the urine free from sugar within twenty-four hours of the initial dose; it lowers the blood sugar, and the ketone bodies disappear from the urine. This clearance in twenty-four hours has occurred in all cases in which the raw gland has been used. It has been found that if in the course of routine administration the gland is withheld, the sugar constantly reappears in the urine.

Calcutta Medical Journal

19: 267-314 (Jan.) 1925

Present Position of Blood Chemistry in Clinical Medicine. H. N. Mookherjee.—p. 267.
Administration of Acids of Chaulmoogric Series by Electric Ionization. A. Gupta.—p. 271.
Toxemias of Pregnancy. B. B. Bhattacharya.—p. 280.
Vitamins: Review. A. Roy.—p. 284.
Malignant Tumor of Ovary with Pregnancy in Girl of 15. I. B. Basu.—p. 291.
Diverticulum of Urinary Bladder: Case. S. Dutta.—p. 295.

China Medical Journal, Shanghai

39: 1-84 (Jan.) 1925

*Incidence of Tuberculous Infection in China. J. H. Korns.—p. 10.
*Kansuh and Its Diseases. G. E. King.—p. 19.
Chinese Inorganic Materia Medica. B. E. Read and C. O. Lee.—p. 23.
Headaches. J. L. McCartney.—p. 32.
*Treatment of Chronic Nephritis by Decapsulation of Kidneys. P. Cheal.—p. 40.
Case of "Irritable Uterus." H. H. Morris.—p. 43.
Double Headed Monster with Two Complete Spinal Columns. H. W. Decker.—p. 44.
Occurrence of Sugar in Urine of Korean Hospital Patients. J. D. Van Buskirk.—p. 47.
Aspirating Apparatus for Tonsilar and Adenoid Operations. J. A. Curran.—p. 49.

Incidence of Tuberculous Infection in China.—Vital statistics are not and cannot now be kept scientifically in China, says Korns. In Hongkong, where an attempt is honestly made to record mortality statistics, in 1922, with a Chinese population of 662,000, there were 2,063 deaths from tuberculosis, or 311 per hundred thousand. While it is not possible as society is organized at present to state the incidence either of mortaliy or, what is more important, of morbidity from tuberculosis in China, it is feasible, through the tuberculin test, to determine with some accuracy the incidence of tuberculous infection. Tuberculin tests were made on 2,049 apparently healthy Chinese between the ages of 8 and 20, and on ninety-seven Chinese hospital patients under the age of 8 years (Chinese reckoning). Among the former there were 631 positives; among the hospital patients twenty-six showed a positive reaction, fifteen of whom gave evidence of clinical tuberculosis. In this small series the tuberculin test proved of value, even up to 8 years, not only in diagnosing infection, but also in confirming the diagnosis of active disease.

Neuroses Among Chinese.—The Chinese are usually regarded as being a phlegmatic race, not likely to show neurotic manifestations, but King has found that their training is often of the repressive type, and that marked cases of neurosis, particularly of anxiety hysteria, abound. Modern analytic methods are often highly successful in the treatment of such patients.

Kidney Decapsulation in Nephritis.—Cheal reports six cases of nephritis with high degree of edema and anasarca in which decapsulation of the kidney proved to be most beneficial.

Indian Journal of Medical Research (Memoirs)

2: 87 (Oct.) 1924

Relationship of Rice to Beriberi in India. R. McCarrison and R. V. Norris.—p. 1.

Indian Journal of Medical Research, Calcutta

12: 443-607 (Jan.) 1925

Influence of Hydrogen Ion Concentration on Activity of Pressor Bases. H. W. Acton and R. N. Chopra.—p. 443.
Reproductive System of Climex: Impregnation. F. W. Cragg.—p. 451.
Seasonal Variation in Reaction and Hardness of River Water. W. C. Ross and K. N. Bagchi.—p. 457.
Chemotherapy of Antimonial Compounds in Kala-Azar Infection. XIII. Dermal Leishmanoid. H. E. Shortt and U. N. Brahmachari.—p. 463.
Some Indian Species of Genus Phlebotomus. X. Abnormalities in Appendages. J. A. Sinton.—p. 467.
Indian Rat Fleas. J. A. Sinton.—p. 471.
Types of Pneumococci Found in Cases of Pneumonia in Madras, Southern India. J. Cunningham, J. A. Cruikshank and S. Ramakrishnan.—p. 479.
*Classification of Streptococci Found in Tropical Affections. J. Cunningham and S. Ramakrishnan.—p. 481.
Micro-Anatomy of Climex; Technic of Insect Histology. C. M. Hutchinson.—p. 487.
Concentration of Anticobra Serum. IV. Absorption Spectrum. J. F. Caius and A. Steichen.—p. 499.
Bacteriologic and Laboratory Technic. XI. Pathogenic Material Examination. W. F. Harvey.—p. 503.
"Thick Film" Method of Examination for Malarial Parasites. J. A. Sinton and A. C. Banerjea.—p. 537.
Eradication of Malaria from Rubber Estate. R. Senior-White.—p. 545.
Experiments on Onset of Immunity After Inoculation with Haffkine's Antiplague Vaccine. W. D. H. Stevenson and K. Bahadur.—p. 553.
Larvae of Some Indian Anopheles. C. Strikland.—p. 561.
Prophylactic Inoculation of Indian Troops in Baluchistan District Against Pneumonia. R. H. Malone.—p. 565.
*Analysis of Malone's Results in Vaccination Against Pneumonia. H. H. King.—p. 571.
Estimation of Blood Sugar in Normal Rabbits and in Rabbits Inoculated Subdurally with Rabies Fixed Virus. J. W. Cornwall.—p. 581.
*Complement Deviation and Globulin Content in Blood of Lepers. I. Wassermann Reaction Given by Lepers' Sera. W. D. H. Stevenson.—p. 583.
Nigir Bodies. J. W. Cornwall.—p. 601.
Development of Parasite of Indian Kala-Azar in Sandfly Phlebotomus Argentipes Annandale and Brunetti. S. R. Christophers, H. E. Shortt and P. J. Barraud.—p. 605.

Streptococci in Tropical Affections.—According to Cunningham and Ramakrishnan, the types of streptococci found in the severer infections in the tropics do not materially differ from those found in similar cases in temperate climates.

Vaccine Therapy in Pneumonia.—King reports on the use of Malone's vaccine in cases of pneumonia. This vaccine is made from the sediment of seventy-two hours old cultures in trypsinized mutton broth, plus glucose and heated pigeon's blood. Two doses each of 5,000 million pneumococci were given. The vaccine was without effect on the incidence and the total mortality of pneumonia.

Globulin Content of Lepers' Blood.—Two conclusions are drawn by Stevenson: First, that a serum may have a high globulin content and yet give a negative or very weak Wassermann reaction. A drop in the globulin content may be the first indication of improvement under treatment—the Wassermann reaction still remaining high. Second, the general average of the globulin content in leprous bloods is very high. It is higher than the average globulin content of treated cases.

Japan Medical World, Tokyo

5: 23-50 (Feb. 15) 1925

Immunization Against Pneumococcus. M. Yoshioka.—p. 23.
Location of Formation of Agglutinin. K. Kobayashi and T. Shiwotsu.—p. 27.
Experimental Orthostatic Changes of Pulse of Japanese. U. Hasegawa.—p. 33.

Lancet, London

1: 475-528 (March 7) 1925

Epidemic Diseases of Central Nervous System. A. S. MacNalty.—p. 475.
*Wounds and Other Injuries in Their Medicolegal Aspect. B. Spilsbury.—p. 480.
*Diagnosis of Incipient Insanity in Young Adults. H. S. Le Marquand.—p. 486.
Prophylaxis and Therapy in Animal Tuberculosis. H. Schutze.—p. 488.
Stricture of Anal Canal Following Improper Treatment. W. Adams.—p. 490.
Large Uterine Fibroid Removed During Pregnancy. W. Worger.—p. 490.

Medicolegal Aspect of Wounds.—In his first paper Spilsbury considered in some of its aspects the medicolegal problem presented by contusions, laying emphasis on the rapid failure of the circulation after death and its bearing on the postmortem development of bruising. He also made an analysis of crushing injuries of the chest and abdomen, pointing out how frequently serious internal injuries occur without any external manifestation. Injuries produced by firearms were described, with special reference to the means of distinguishing self-inflicted injuries from those produced by others. In this lecture Spilsbury discusses incised wounds and stab wounds.

Diagnosis of Dementia Praecox.—Le Marquand limits his discussion to dementia praecox, a disease usually seen first, by the general practitioner, who does not always recognize it. The insidious onset causes considerable difficulty in diagnosis because the condition is liable to be mistaken for one of the common neuroses. The diagnosis between dementia praecox and these conditions is important on account of: (*a*) the different prognosis and treatment in the two cases; (*b*) the desirability of early investigation of dementia praecox, and (*c*) the probability of extension of facilities for treating early cases in the near future.

Medical Journal of Australia, Sydney

1: 101-126 (Jan. 31) 1925

*Histogenesis of Tenia Echinococcus. H. R. Drew.—p. 101.
*Puerperal Hematoma. P. L. Hipsley.—p. 110.
Tumor of Thymus Gland. E. Sutton.—p. 110.
Case of Hydatid Infection Involving Myocardium. N. E. Goldsworthy.—p. 110.

Histogenesis of Tenia Echinococcus.—An experimental study of the early stages of the development of the hydatid cyst in the pig was made by Drew. The findings were as follows: The hydatid hexacanth embryo finds its way to the liver by means of the portal vein within twelve hours. The embryo tends to come to rest in the substance of the liver lobules and has a predilection for the subperitoneal lobules. By the local reaction of the liver tissue, a hydatid follicle is rapidly produced. In the second week vesiculation commences. There is evidence that in some cases the cellular reaction on the part of the host tissue overcomes the parasite in the earlier stages with the production of an aborted follicle. The adventitious capsule by organization becomes avascular and fuses intimately with the surrounding liver tissues. This fusion precludes any possibility of total enucleation of the whole cyst at operation. A remarkable feature is the persistency of patent biliary channels in the fibrous adventitia even close up to the parasite itself. This no doubt explains the frequency of complications in liver cysts due to the entry of bile and so forth. The cyst grows, as a rule, in a spherical form, but it also tends to take the line of least resistance, so that pouching is not uncommon. This pouching is determined by the local resistance of bands of fibrous tissue, large blood vessels or bile ducts. At the end of five months the cyst may reach a diameter of 100 mm. but there is no trace of the formation of brood capsules at this stage.

Puerperal Hematoma.—Three days after a perfectly normal delivery, Hipsley's patient complained of severe abdominal pain. The abdomen was greatly distended, due apparently to intestinal obstruction. Laparotomy revealed a very large retroperitoneal hematoma, which had separated the layers of the broad ligament to their fullest extent and had dissected its way retroperitoneally up to the right kidney and between the layers of the mesentery and mesocolon. Seeing that there was no interference whatever during the confinement, the cause of the hemorrhage was difficult to ascertain. The patient died in spite of transfusion.

Medical Journal of South Africa, Johannesburg

20: 147-178 (Jan.) 1925

Some Injuries to Eyes of Native Mine Workers. F. H. Napier.—p. 149.
Plea for Painless Childbirth. H. N. Hirschman.—p. 152.
*Foreign Body in Intestines. S. M. Dickson.—p. 161.

Child Swallows Padlock.—Dickson reports the case of a child, aged 21 months, that swallowed a padlock. It passed through the entire intestinal tract and was passed the next day. The lock was about 2 inches (5 cm.) long, 1 inch (2.5 cm.) wide, one-fourth inch (5.1 mm.) thick and weighed 244 grains (15 gm.).

Bulletin de l'Académie de Médecine, Paris

93: 221-249 (March 3) 1925

Chronaxia in Theory and Practice. L. Lapicque.—p. 229.
*Electric Test for Rickets. Gillot and Bure.—p. 233.
Reactivity to Germs and Surgery. L. Bazy.—p. 234.
*Action of Radium on Blood System. Weil and Lacassagne.—p. 237.
Insulin in Postsurgical Acidosis. Rastouil.—p. 241.
Value of Anthropometry. B. Roussy.—p. 245.

Electric Hyperirritability in Incipient Rickets.—Gillot and Bure consider the electric hyperirritability of the facial nerve, manifest in the orbicularis oculi muscle, as an early sign of rickets. While normally the muscle responds to a galvanic current of 2.5 ma., with the cathode closed, the response in rickets becomes manifest with 2 or 1 ma., and even less. This symptom is connected with the hypocalcemia, a causal factor of spasmophilia in rickets. The diagnosis of hyperirritability may help to ward off the bone deformities by timely treatment. The sign is not dependable in infants under 3 months of age.

Pernicious Anemia and Myeloid Leukemia from Radioactive Substances.—Weil and Lacassagne observed these cases in two men, about 40 years old, who had handled radioactive substances, of thorium origin. After having worked together two or three years, they both died a few days apart. The prolonged small doses of radiations exerted in one case a destructive action on the blood system; in the other, the irritative effect of the radium rays predominated, inducing leukemia.

Bulletin Médical, Paris

39: 223-250 (Feb. 28) 1925

*Nonpulmonary Hemoptysis. L. Dufourmentel.—p. 229.
Posterior Sinusitis. F. Bonnet-Roy.—p. 231.
Peritonsillar Suppuration. P. Truffert.—p. 233.
Paralysis of Inferior Laryngeal Nerve. R. Pierre.—p. 236.

Hemorrhages from Respiratory Tract.—Dufourmentel says that hemoptysis may sometimes be traced to a varix in the lower pharynx, to hemorrhagic laryngitis, or to a bleeding papilloma in the trachea. In the first case the development of the vascular network in the tongue is noteworthy; in the last, the development of the papillary elements in the mucosa is exaggerated. Patients with hemoptysis from benign causes may be condemned unjustly to treatment for tuberculosis. The blood expelled in nonpulmonary hemorrhage cannot be aerated, and is often blackish. The two forms of hemorrhage can, however, always be differentiated by the complete arrest of the spitting of blood in the nonpulmonary cases as soon as the hemorrhage stops, whereas blackish sputum is expectorated for twenty-four or forty-eight hours following a true pulmonary hemorhage.

39: 253-280 (March 7) 1925

Uses of Sodium Citrate. G. Lyon.—p. 259.
Pregnancy Pernicious Anemia. C. Aubertin.—p. 261.
*Treatment of Chronic Urethritis. J. Zadok and A. Grimberg.—p. 262

Autogenous Vaccines in Chronic Gonorrheal Urethritis.—Zadok and Grimberg treated 126 patients with gonococcus vaccines, and the results, they say, justify the assertion that all cases of gonorrhea may be completely cured by the combined action of vaccine therapy and local treatment.

Bulletins de la Société Médicale des Hôpitaux, Paris

49: 247-294 (Feb. 20) 1925

"Suprarenal Insufficiency and Syphilis." A. Sézary.—p. 247.
"Zoster and Chickenpox." A. Netter.—p. 249. See Paris Letter, p. 909.
Suprarenal Insufficiency in Congenital Syphilis. C. Flandin.—p. 253.
Treatment of Kala-Azar. D'Oelsnitz et al.—p. 255.
Hemolysis in Malaria. H. Bourges.—p. 267.
*Dyspepsia from Rhinopharyngitis. Ameuille and Tarneaud.—p. 271.
Fatal Barbital Poisoning. L. Rivet et al.—p. 276.
*Neuritis from Arsphenamin. Sézary and Chabanier.—p. 279.
*Cauda Equina Syndrome in Tuberculosis. Harvier and Chabrun.—p. 290.

Rhinopharyngitis Causal Factor in Dyspepsia.—Ameuille and Tarneaud call attention to a personal case of dyspepsia from bilateral maxillary sinusitis. Swallowing of pus, together with air, occurring during sleep, caused sudden attacks of pain from the aerophagy, with vomiting, and chronic dyspepsia. Drainage of the sinuses was followed the next day by complete and permanent subsidence of the gastric disturbances. A possible rhinopharyngitis should always be borne in mind in cases of dyspepsia.

Arsphenamin Neuritis Simulating Tabes.—Sézary and Chabanier describe six cases, two of an attenuated form, simulating incipient tabes, four of a generalized form, a pseudolocomotor ataxia. Large doses of the drug are an undeniable factor in the neuritis, but the latter may occur with small doses, probably owing to anaphylaxis. The neuritis seems to be more frequent with subcutaneous injections than with intravenous, since the elimination of arsenic is more rapid with the latter. Persistence of the pupil reflex, integrity of the sphincters, tingling in the soles, and slight changes of sensibility in the limbs are the differential signs from tabes.

Lesions in Cauda Equina Coexisting with Tuberculosis.—Harvier and Chabrun observed in a tuberculous patient a syndrome of cauda equina disturbances in the bladder and anal sphincters, and an anesthesia of radicular character. The lumbar puncture findings indicated some lesion in the meninges. Iodized oil roentgenograms testified to adherent arachnoiditis in the cauda equina, obstructing the subarachnoid space.

49: 295-320 (Feb. 27) 1925

"Barbital (Veronal) Poisoning." G. Caussade and A. Tardieu.—p. 295.
*"Varicella and Zoster." Sicard and Paraf.—p. 301.
*Abnormal Elasticity of Joints and Skin. A. Gilbert et al.—p. 303.
Insufficiency of Pulmonary Valve. Flandin and Laennec.—p. 307.
Adiposogenital Syndrome in Encephalitis. L. Rivet et al.—p. 311.
*Vaccine Treatment in Meningococcemia. G. Etienne et al.—p. 316.

Herpes Zoster Serum Does Not Prevent Chickenpox.—Sicard and Paraf injected 5 c.c. of serum of a convalescent from zoster in two children out of three that had been exposed to contagion of chickenpox. All three children developed chickenpox.

Congenital Hyperelasticity of Joint Ligaments and of Skin.—Gilbert, Villaret and Bosviel observed in a young man that the distal phalanges of all the fingers could easily, without causing pain, be bent sideways or on the second phalanges, and these on the metacarpal bones. The toes could also be passively luxated on the metatarsal bones in the same way. The elasticity of the skin was exaggerated. The skin over the knee, for instance, could be stretched for 6 cm., and the skin of the brow for 3 cm. When released, the skin was normally smooth, without folds. The congenital anomaly was associated with acrocyanosis, manifest also in the patient's three sisters. Neither syphilis nor endocrine disturbances could be incriminated.

Autovaccine Treatment in Cerebrospinal Meningitis.—Etienne, Francfort and Dombray treated a young man with chronic meningococcus B meningitis by an autogenous vaccine prepared from his cerebrospinal fluid. Four subcutaneous injections, each of 2 c.c., seem to have induced a definite cure, for four months to date. A polyvalent serum had been ineffectual, and finally caused an intense shock.

Comptes Rendus de la Société de Biologie, Paris

93: 405-468 (Feb. 20) 1925. Partial Index

India Ink for Showing Up Microbe Capsules. P. Borin.—p. 406.
Continuous Dehydration in Histologic Research. H. Limousin.—p. 409.
*Recurring Herpes of Finger. S. Nicolau and P. Poincloux.—p. 413.
*Reflex Secretion of Epinephrin. A. Tournade and M. Chabrol.—p. 418.
*Typhus Spleen Broth as Culture Medium. N. Kritch.—p. 423.
Intradermal Vaccination Against Anthrax. H. Velu.—p. 429.
Reduction of Gold Salts by Myelin. M. Renaud.—p. 431.
Hereditary Transmission of Immunity to Diphtheria in Guinea-Pigs. C. Zoeller.—p. 432.
*Cumulative Cultures. C. Zoeller.—p. 435.
*Absorption of Bismuth. M. Perrin and G. Ducas.—p. 439.
*Secretin and Glycemia. M. Lambert and H. Hermann.—p. 440.
*Case of Arteriovenous Anastomosis. J. Morel.—p. 446.
Reactions from Induced Pneumothorax. Dautrebande and Spehl.—p. 451.
*Action of Radium on Spirochetes. R. Bruynoghe and A. Dubois.—p. 466.

Recurring Herpes of Finger.—Nicolau and Poincloux describe a case of recurring herpes of the middle finger, irritated by the needle in darning. The woman, aged 35, had had recurring labial herpes, but not for eleven years. Neuralgia in the arm accompanied the second eruption of the herpes of the finger three months after the first attack. The virus from the vesicles, inoculated in rabbits, displayed

considerable affinity for the cornea and skin, but only slight for nerve tissue.

Proof of Reflex Secretion of Epinephrin.—After having joined the suprarenal vein of one dog to the jugular vein of a second dog, Tournade and Chabrol noted that centripetal irritation of the sciatic or crural nerve in the donor induced in the other dog a slight hyperepinephrinemia. The latter was manifested by contraction of the spleen, with or without changes in the arterial pressure.

Spleen Culture Medium for Detection of Microbes.—Kritch details his procedure for utilizing as a culture medium spleen tissue taken an hour or two after death from typhus. He found in such cultures a coccobacillus which he believes to be the specific agent of the disease. Inoculation of the cultures in guinea-pigs induced a fever curve exactly the same as in animals inoculated with blood of patients with typhus. The spleen broth culture medium is peculiarly adapted for detection of microbes which exist in the blood, and yet are not easily cultivated.

Cumulative Cultures.—The pyocyaneus bacillus, cultivated in diphtheria toxin, preserved its characteristic properties, and did not apparently affect the properties of the diphtheria toxin culture medium. Subcutaneous injection of 1 c.c. of this alterotoxin, as Zoeller calls it, caused fatal pyocyaneus infection in a guinea-pig, previously given 5 c.c. of diphtheria antitoxin. No diphtheria lesions could be detected. The pyocyaneus alterotoxin caused fatal diphtheria lesions, but no pyocyaneus infection in the animal previously inoculated with antipyocyaneus vaccine. Guinea-pigs inoculated with both antipyocyaneus vaccine and diphtheria antitoxin proved refractory to both the pyocyaneus and the diphtheria, while lesions of both developed in a guinea-pig not given preliminary vaccination with either.

No Absorption of Bismuth in Digestive Tract.—Perrin and Ducas did not find in the urine traces of bismuth, administered as carbonate or subnitrate during twelve days in a daily dose of 4 gm. by the mouth or in suppository. Evidently the drug was not absorbed in the digestive tract. Bismuth appears in the urine when mixed with a large dose of some acid (lactic). But then even a small dose of bismuth proves toxic. Very large doses of bismuth subnitrate by the mouth induced intoxication from the nitric acid, but even then the bismuth was not absorbed. Bismuth carbonate, given in large doses, is partly absorbed, since it is transformed into a soluble chlorid, and bismuth poisoning may occur. Consequently bismuth should be preferably used in injections.

Effect from Secretin on Glycemia.—Experiments on dogs showed that injections of secretin induced hyperglycemia, but only for thirty minutes. The hyperglycemia may be followed by slight hypoglycemia. This hyperglycemia is not connected with the pancreas, since it occurs after pancreatectomy.

Natural Arteriovenous Anastomosis.—While operating on the second phalanx of a finger, in a young man, Morel found a veno-arterial anastomosis, the blood circulating from the vein into the artery. He believes this anastomosis should not be considered as an anomaly, since further research showed it to be comparatively common.

Action of Radium on Spirochetes.—Bruynoghe and Dubois found the virulence of *Spirochaeta duttoni* partially or totally suppressed under the influence of the radium rays, especially the emanation.

Journal de Radiologie et d'Electrologie, Paris

9: 1-48 (Jan.) 1925

Effect from Polonium in Organism. A. Lacassagne et al.—p. 1.
*Roentgen Ray Treatment of Nevi. F. Barjon.—p. 15.
*False Pott's Disease. J. Calvé.—p. 22.
Tabetic Arthropathy. P. Gastaud and J. H. Marchand.—p. 28.
Improved Needles for Radium Puncture. E. Wallon.—p. 31.

Roentgen Rays in Treatment of Nevi.—Barjon warns emphatically against applying roentgen rays to flat congenital nevi, claret stains, which have no tendency to spread or to retrogress even under radiotherapy, which is so effectual in the protruding type. Irradiations should be confined to raised vascular nevi, cavernous angiomas, which develop soon after birth, and, like any tumor, are liable to grow, sometimes very rapidly. At the first sign of growth, the tuberous nevi should be exposed preferably in the first six months of life. Three exposures, of 4 skin units each, repeated at intervals of three or four weeks, are indicated. The rays employed should be of medium penetration and unfiltered. The nevi subsided without leaving a trace in his cases, and reexamination years later showed nothing to indicate injury of any kind.

Vertebral Osteochondritis Simulating Advanced Pott's Disease.—Analyzing Brackett's case and his own in a boy, aged 2½ years, Calvé demonstrates the differential lesions as revealed by serial roentgenograms. The body of only one vertebra was affected. The adjacent disks were intact. Formation of new cartilage tissue and augmented density of the bones were manifest. A regeneration process in the bone was also evident. This definitely excludes tuberculosis. Tuberculin and Wassermann tests had been negative. The affection seemed to be of infectious origin, occurring in the course of enteritis. The pathogenesis suggests analogy with Legg's coxa plana and with tarsal scaphoiditis. Both patients have apparently entirely recovered. Calvé's treatment was by extension, with or without plaster.

Journal d'Urologie Médicale et Chirurgicale, Paris

19: 1-96 (Jan.) 1925

*Pollakiuria Due to Congenital Syphilis. G. Cirillo.—p. 1.
Two Cases of Kidney Cysts. H. Blanc.—p. 5.
*Stain Test in Bilateral Renal Tuberculosis. R. Lévy and E. Falci.—p. 13.
*Radium Treatment for Hypertrophy of the Prostate. Kogan.—p. 23.
Pyonephrosis in Ectopic Kidney in Pelvis. C. Perrier.—p. 29.
*Nephrectomy for Tuberculous Kidney. G. Marion.—p. 33.

Pollakiuria as a Late Manifestation of Congenital Syphilis.—Cirillo presents a case of six years' standing in a woman, aged 27, with probable congenital syphilis. The Wassermann reaction proved positive. On combined iodid and mercury treatment, complete recovery followed in a month. In simple pollakiuria, without signs of hysteria, the physician may well suspect syphilis.

Phenolsulphonephthalein Test in Bilateral Renal Tuberculosis.—From their observations on four cases of nephrectomy and four nonoperative cases, Lévy and Falci conclude that this test is the most valuable gage of the functional capacity of the kidney. Nephrectomy is definitely contraindicated if the elimination of the dye by the sounder kidney is not close to 50 per cent. in seventy minutes.

Radium Treatment for Hypertrophy of the Prostate.—In six cases treated with two applications of radium, Kogan found micturition completely restored to normal in three instances, and marked improvement lasting three years in one, while the remaining two were somewhat benefited. In the two cases of prostatectomy following the radium treatment, the operation had not been rendered more difficult.

Certain Precautions in Nephrectomy for Tuberculous Kidney.—Marion advises to tie and cut the ureter not far from the kidney. Drainage is indispensable. He has not found this to favor fistulas. The open wound heals rapidly without generalization of the tuberculous process. In case of a simple fistula, a silver nitrate pencil is inserted; by the fourth day a cylindric eschar, made up of the wall of the fistula, can be withdrawn. If one cauterization fails to dry up the fistula, the procedure is repeated two or three weeks later. For a lumbar urine fistula, he advises a retention catheter in the bladder. In the six cases observed, spontaneous and rapid healing followed. Lumbar fistulas secondary to nephrectomy do not usually require surgical intervention. In fifteen years' experience he has interfered only three times. General treatment is, however, indispensable. Under heliotherapy small fistulas sometimes disappear. The ultraviolet rays also achieve remarkable results.

Paris Médical

55: 241-256 (March 14) 1925

*Nystagmus in Diagnosis of Bulbar Affection. André-Thomas.—p. 241.
*Blood Transfusion in Septicemia. J. Baranger.—p. 251.
Cirrhosis of Liver and Spleen from Malaria. Jonesco and Popper.—p. 253.

Significance of Nystagmus in Lesions of Medulla Oblongata.—Referring to his seven cases, Thomas emphasizes the value of a rotatory nystagmus in diagnosis of a unilateral lesion in the lower part of the medulla oblongata, especially in syringobulbia. The movements of the eyeballs should be examined particularly when the patient is looking down and outward, to detect any tendency to the involuntary movements.

Blood Transfusion in a Case of Osteomyelitis.—Baranger obtained surprising results from transfusion of 220 c.c. of citrated blood in a case of acute osteomyelitis in a girl, aged 7. He thinks this is the first instance in which transfusion was done to combat toxic delirium and convulsions from septicemia. The apparently moribund child was saved by it.

Presse Médicale, Paris

33: 281-296 (March 4) 1925

Gangrene in Diabetes. M. Labbé.—p. 281.
Associated Chronic Disturbance in Cecum and Gallbladder. Gaston-Durand and Binet.—p. 284.
Treatment of Rectal Strictures. N. Barbilian.—p. 286.

33: 297-312 (March 7) 1925

*Significance of the Bechterew Reflex. Rimbaud and Boulet.—p. 297.
*Alkali Reserve. L. Dupuy.—p. 298.
Treatment of Hemophilia. R. Feissly.—p. 301.
Treatment of Internal Leishmaniasis. G. Izar.—p. 303.

Diagnostic Import of the Tarsophalangeal Reflex in Lesions of the Spinal Cord.—The Bechterew-Mendel reflex was positive in all the eleven cases observed by Rimbaud and Boulet with exclusive spinal cord lesions. In five of them the Babinski reflex was positive, while in six the Babinski was negative. The tarsophalangeal reflex appeared always with pyramidal lesions originating in the cord itself. In the cerebral affections it was not found before the second year of the disease. The reflex probably becomes manifest when the descending degeneration has reached the spinal cord. The tarsophalangeal reflex seems thus to be a pathognomonic sign of a pyramidal lesion of the cord.

Factors in Alkali Reserve.—Dupuy states that exaggerated permeability of the kidneys for chlorids, also defective splitting of the salt in the stomach induce acidosis, possibly diabetes. A deficient urinary elimination of the chlorids, with normal gastric functioning, causes an excessive alkalinity in the blood, gastric hyperacidity and a weak acidity of the urine. Retention of chlorids by the kidneys, coexisting with insufficient gastric function with regard to chlorids, may produce considerable acidosis. It is pointed out that the common consumption of 15 gm. of more of sodium chlorid ingested daily with our food involves a hyperfunctioning of the kidneys and of the stomach. The amount actually needed does not exceed 3 gm.

33: 313-328 (March 11) 1925

*Migraine from Stasis of Bile. M. Chiray and F. Triboulet.—p. 313.
*Correction of Pendulous Breast. R. Passot.—p. 317.

Rôle of Stasis in the Gallbladder in Migraine.—Chiray and Triboulet believe that a distended gallbladder, due to obstruction in the bile duct, may induce a sympathetic reflex from an anaphylactic shock and therefore be responsible for migraine, since the sensory innervation of the gallbladder is exclusively of sympathetic origin. Infection, developing in the stagnant bile, may also favor the occurrence of a migraine syndrome. The condition subsides two or three days after nonsurgical drainage of the biliary apparatus. The recovery may be permanent after one or two intubations, but five or six may be required. In certain cases the intubation must be repeated every one or three months. An autoobservation is reported, with an apparent cure for several months to date.

Plastic Correction of Sagging Breast.—Passot illustrates his procedure for operation on a pendulous breast by resection of the redundant tissue and transposition of the nipple.

33: 329-344 (March 14) 1925

Vaccine Treatment in Surgery. L. Bazy.—p. 329.
*Diuretic Action of Bile. A. Landau and J. Held.—p. 333.
*Benzoin Reaction in Syphilis. A. Starobinsky.—p. 334.

Diuretic Effect of Bile.—Landau and Held administered bile in eleven cases of dropsy, eight of renal and three of cardiac origin. Ingestion of 1 gm. of bile, four times daily, augmented the urinary secretion in four patients by 1,300 to 2,150 gm. The dropsy subsided in several days, and the body weight was reduced by 11 to 32 pounds. The action was most pronounced in dropsy of renal origin. Bismuth or an astringent was added to the bile, if the latter provoked diarrhea.

Benzoin in Flocculation Reaction in Syphilis.—Starobinsky tested 823 serums with the colloidal benzoin test. In 93.7 per cent. of the cases the reaction harmonized with the Wassermann reaction. The test was negative in eighty-four nonsyphilitic patients, and positive in seven cases of suspected syphilis in which the Wassermann test was negative. The preparation of the antigen is described. The technic does not require laboratory equipment.

Revue Franç. de Gynécologie et d'Obstét., Paris

20: 97-136 (Feb. 10) 1925

*Superfetation is Not a Fact in the Human Species. V. Cathala and G. Barbaro.—p. 97.

Is Superfetation Possible?—Cathala and Barbaro believe that superfetation is impossible in a normal uterus but that it may possibly occur in an abnormal bicornate organ. In the cases of alleged superfetation in a normal uterus on record, neither roentgenograms nor histologic examination had been made, and actual superfetation has not been demonstrated to date. They were probably instances of superfecundation. They explain by this a case of bivitelline twins with one much farther developed than the other.

Schweizerische medizinische Wochenschrift, Basel

55: 181-200 (Feb. 26) 1925

*Surgery of Postpneumonic Empyema. B. Galli-Valerio.—p. 181.
*Surgery of Poliomyelitis. P. Deus.—p. 182.
History of Greek Medicine. H. E. Sigerist.—p. 188.

Surgery of Postpneumonic Empyema.—Galli-Valerio draws attention to Buzzi's method: A curved trocar is introduced through an intercostal space, and pierces the next space, straddling the rib. A rubber drain introduced through the trocar is left in place. Drainage of the pus is facilitated by Herrmannsdorfer's method: He leaves in the cavity for six to twelve hours 150-250 c.c. of a solution consisting of pepsin, 20 gm.; hydrochloric acid, 2 gm.; phenol, 2 gm., and distilled water to 400 gm. He had good results in metapneumonic empyemas, which are frequent in the mountains.

Surgery of Poliomyelitis.—Deus begins the treatment as soon as the irritation period passes (negative Kernig sign). The antagonists cause more trouble than the paretic muscles. Splints are necessary. They have to be removed several times daily for the massage and passive movements. All the movements (including the frequently neglected abduction and external rotation in the hip joint) must be made. A similar or greater danger arises, when the patient begins to walk. An apparatus is essential if the child shows the slightest residue of paresis.

55: 201-224 (March 5) 1925

*Kidney Function with Hypertrophy of the Prostate. M. Judin.—p. 201.
*Artificial Pneumothorax. F. Loup and L. Zoppino.—p. 206.
Cancroid of Prostate. B. Walthard.—p. 209.
Public Hygiene in Switzerland. O. Gengou.—p. 212.

Kidney Function with Hypertrophy of the Prostate.—Judin concludes from his material of fifty-two cases that blood urea under 75 mg. per hundred cubic centimeters and a freezing point above —0.59 give the probability that no uremia will follow immediately after the operation. Yet it may occur even with a blood urea of 25 mg., being provoked by other complications, especially of an infectious nature. Permanent catheterization and a bladder fistula depress the blood urea. They are imperative as a preliminary procedure, where the urea is above 75 mg. per hundred cubic centimeters of blood.

Artificial Pneumothorax.—Loup and Zoppino had twelve good and eight bad results from pneumothorax in their twenty-five patients. An exudate appeared in 65 per cent. of their patients (16 per cent. purulent).

Pediatria, Naples

33: 225-280 (March 1) 1925

Introductory Lecture in Pediatrics Course. S. Maggiore.—p. 225.
*Iron Content of Blood in Splenic Anemias. C. Gallo.—p. 251.
Pediatric Cases with Necropsy Findings. M. B. Sindoni and F. Guccione.—p. 257.
Syphilitic Osteochondritis. G. Castorina.—p. 265.

Iron Content of Blood in Splenic Anemias.—Gallo confirms the approximate parallelism between the concentration of hemoglobin and of iron in the blood of normal children. In splenic anemia the hemoglobin is low, but the iron content is almost equal to and sometimes higher than that found in health. Contrary to this, the iron content in leishmaniasis was low, especially in small children. This indicates the need for administration of iron.

Policlinico, Rome

32: 233-267 (Feb. 16) 1925

*Complement Fixation Test in Gonorrhea. L. Fellegrini.—p. 233.
Propagation of a Dental Abscess. P. Arsenio.—p. 238.
Mechanics of Pneumothorax Apparatus. D. Sartori.—p. 239.
Sport, Age and Health. A. Vinaj.—p. 241.

Complement Fixation Test in Gonorrhea.—Pellegrini found too great differences in the results with various types of gonococcus antigens and too few positive results (23 per cent. in chronic cases) for practical purposes.

32: 305-339 (March 2) 1925

*Tachycardia as Equivalent of Malaria Attack. R. Monteleone.—p. 305.
*Alcohol in Pulmonary Tuberculosis. A. Campani.—p. 309.
Vesico-Intestinal Fistula After Salpingitis. M. Sbrozzi.—p. 314.

Tachycardia as Equivalent of Malaria Attack.—Monteleone observed attacks of tachycardia as equivalents of the expected hours of fever in a patient recovering from malaria.

Alcohol in Pulmonary Tuberculosis.—Campani's statistics relate to 406 male tuberculous patients of a sanatorium. The course of the disease was distinctly more favorable in heavy drinkers of wine than in the teetotalers. This was not due to a different constitution. He attributes the favorable action of alcohol to its stimulating influence on the formation of connective tissue.

Riforma Medica, Naples

41: 145-168 (Feb. 16) 1925

*Vaccination Against Tuberculosis. E. Maragliano.—p. 145.
Intestinal Occlusion from Pericolonic Membrane. A. Zaffagnini.—p. 148.
Resection in Perforated Duodenal Ulcers. G. Pototschnig.—p. 151.

Vaccination Against Tuberculosis.—Maragliano, who was the first to attempt preventive vaccination against tuberculosis, claims that his old method, using tubercle bacilli killed by heat, is at least as successful as the more dangerous new methods, using attenuated living germs.

41: 169-192 (Feb. 23) 1925

Bufalini's Tradition. C. Frugoni.—p. 169.
*Endocarditis in Gallstone Disease. C. Fedeli.—p. 173.
*Ultravirus in Necropsy Infections. A. Scarpellini.—p. 174.
Bismuth in Congenital Syphilis. G. Nardi.—p. 175.
Hot Filiform Douche in Dermatology. G. Venturelli.—p. 178.

Endocarditis in Gallstone Disease.—Fedeli has frequently observed a systolic murmur in the mitral area in patients with gallstones. He attributes it to a very chronic endocarditis caused by the infection of the biliary passages.

Ultravirus in Necropsy Infections.—Scarpellini attributes the malignant necropsy infections to an ultrafiltrable virus which is pathogenic for laboratory animals and has lytic properties against the colon bacillus and streptococcus.

Lisboa Médica, Lisbon

1: 601-656 (Dec.) 1924

*Electric Enemas for Intestinal Obstruction. F. Formigal Luzes.—p. 601.
*Own Blood in Treatment of Inflammatory Lesions. Vasco Palmeirim.—p. 608.
Action of Insulin on Lipemia in Diabetics. F. Fonseca.—p. 615.
Aerophagy with Syndrome of Angina Pectoris. A. Narciso.—p. 624.

Electric Enemas.—Formigal Luzes extols the efficacy of galvanic electricity passed through a column of saline in the bowel as a means of rousing intense peristalsis. In a case of obstruction of the bowels from gallstones, the second electric enema, as the last resort before a laparotomy, was followed by spontaneous expulsion of three calculi and prompt recovery, after eleven days of almost total obstruction.

Hemolyzed Own Blood in Chronic Inflammatory Lesions.—Palmeirim draws 10 c.c. of blood into 20 c.c. of distilled water, and injects 10 c.c. of this fluid into the cellular tissue of the abdominal wall. Two hours later he injects 10 c.c. again, and repeats this after the same interval. The effect has been extremely favorable in his two years of experience with this method in acute infections and chronic inflammatory processes. There was no appreciable general reaction with this technic, and the leukocytes increased in number, a polynucleosis being a good omen. The blood pressure was not modified.

Prensa Médica Argentina, Buenos Aires

11: 833-868 (Feb. 10) 1925

Entozooses in Argentina. M. R. Castex et al.—p. 833. Begun, p. 801.
*Action of Roentgen Rays on Cholesterol. Roffo and Correa.—p. 862.

Action of Roentgen Rays on Cholesterol.—Roffo and Correa exposed experimental sarcoma in white rats to the rays, protecting the rest of the body, or exposed the body, protecting the sarcoma. The cholesterol content of the tumor and also of the blood serum dropped considerably in the irradiated animals. Cholesterol in solution in test tubes was almost totally destroyed by the action of the rays, but the crystals were not modified.

Revista de la Asoc. Médica Argentina, Buenos Aires

37: 189-232, 1924. Urology Section

*Influenzal Prostatitis. R. Spurr.—p. 189.
Rupture of Kidney. R. Spurr.—p. 195.
Clear Urine as Medium in Cystoscopy. A. Montenegro and L. Figueroa Alcorta.—p. 204.
*Mishaps with Catheterization of Ureters. L. E. Pagliere.—p. 214.
Study of Polyuria. C. Lobo Onell.—p. 220.
Hemostasis in Surgery on the Scrotum. J. Salleras and G. Vilar.—p. 229.

Prostatitis in Influenza.—The acute prostatitis developed the twentieth day of severe influenza in a man of 28 with no history of urethritis. It subsided completely in a few days under purgatives and repeated irrigation with hot water by the rectum. Oraison recorded ten cases of acute and transient prostatitis in 712 collected cases of influenza.

Acute Pyelonephritis from Catheterization of Ureter.—The acute kidney disease proved fatal in one of Pagliere's two cases. In the other case the pyelonephritis returned six months after recovery from the first attack, and proved fatal. The catheter had evidently carried septic material from the ureter mouth up into the kidney.

37: 419-464, 1924. Internal Medicine Section

*The Bradycardia of Jaundice. R. A. Bullrich.—p. 419.
*Case of Pure Renal Diabetes. M. R. Castex and Beretervide.—p. 424.
Transient Auricular Fibrillation. Waldorp and Harguindeguy.—p. 428.
*Pleurisy with Cholesterol in Effusion. Castex et al.—p. 439.
Somatic Senilism in Mentally Backward Boy of 13. C. P. Waldorp and del Castillo.—p. 443.

Bradycardia in Jaundice.—Bullrich gives electrocardiograms showing the influence of different drugs on the pulse beat of 45 or 50 in the young man, and on other manifestations. The jaundice for a month was explained by acute hepatitis.

Renal Diabetes.—Intestinal autointoxication was evidently responsible for the glycosuria, averaging 0.3 per cent., as it could be banished or brought back at will by dropping proteins from the diet.

Cholesterol Pleurisy.—Crystals of cholesterol were found in the pleuritic effusion in the two cases reported. There have not been more than twenty cases of the kind published in accessible literature. Tuberculosis plus alcohol were the probable factors in one case; the other patient had severe diabetes.

37: 465-501, 1924

Pneumoperitoneum for Gallbladder. H. H. Carelli and R. Finochietto.—p. 465.
Hookworm in Buenos Aires Province. J. Bacigalupo.—p. 471.
Amebic Abscess in Liver. H. J. d'Amato and J. Ortuño González.—p. 476.
*Nonsurgical Drainage in Treatment of Cirrhosis of Liver. R. A. Bullrich and S. M. Costa.—p. 493.

Nonsurgical Drainage in Cirrhosis of the Liver.—The cirrhosis was of the Hanot type, the first symptom being a continuous dull pain in the epigastrium; fever and jaundice followed, but under duodenal tube treatment, begun the third month, clinically normal conditions were soon restored, the spleen and liver returning to normal size.

Revista Médica Latino-Americana, Buenos Aires

10: 433-509 (Jan.) 1925

*Treatment of Lymphogranuloma. A. H. Roffo.—p. 433.
*Pulmonary Rheumatism Simulating Tuberculosis. A. A. Raimondi and A. A. Robles—p. 437.
Hemostasis in Surgery on the Scrotum. J. Salleras and G. Vilar.—p. 441.
Pathogenesis of Polycystic Kidney. R. G. Cabred.—p. 444.

Treatment of Lymphogranuloma.—Roffo applied roentgen irradiation in treatment of lymphogranuloma in an electrician, aged 34. Aggravation and extreme prostration followed this. Then an autogenous vaccine was prepared from an excised lymphoma, and, under this, clinically normal conditions were soon restored and have persisted for a year to date.

Pulmonary Manifestations in Articular Rheumatism.—The cough, râles and hemoptysis developed in the second month of the subacute febrile rheumatism. Sodium salicylate was then given, up to 8 gm. a day, and the lung symptoms subsided, along with the joint disturbances, without leaving a trace.

Semana Médica, Buenos Aires

1: 289-344 (Feb. 5) 1925

*Early Diagnosis of Epidemic Meningitis. C. Preioni.—p. 289.
*Immunization Against Chicken Sarcoma. J. Llambías and D. Brachetto-Brian.—p. 292.
Pregnancy Pernicious Anemia. J. E. Bazán.—p. 320.
Catalog of Argentine Works on Skin Diseases and Syphilis. A. Fernández.—p. 322.
Inspection of School Children's Eyes in 1924. J. Lijó Pavia.—p. 334.

Diagnosis of Meningitis.—Preioni has found headache the first symptom of epidemic meningitis to appear, and the last to disappear, but abdominal neuralgia is relatively common and frequently proves misleading. The most instructive early symptom, however, is a latent hyperexcitability of the central nervous system. This can be rendered manifest by having the reclining patient bend his head down toward his chest six or seven times in rapid succession, and flex the trunk on the thighs. When this is done, all the signs and symptoms of established meningitis appear at once, and zones of tenderness, even when it is too early in the disease for the spinal fluid to show appreciable changes.

Infectious Chicken Sarcoma.—Llambias and Brachetto-Brian present evidence that injection of a tumor filtrate may confer a certain degree of immunity, so that a tumor inoculated four months later develops only in an attenuated form. Inoculation from this attenuated tumor may give negative results in other fowls previously protected by the injection of a tumor filtrate. With this biologic attenuation of the virus by preliminary passage through an immunized fowl, they got no "takes" on reinoculation with it of other immunized fowls. The immunization is thus definite, but very weak.

Archiv für klinische Chirurgie, Berlin

134: 209-662 (Feb. 28) 1925

*Roentgenography of Large Intestine. A. W. Fischer.—p. 209.
Healability of Fractured Neck of Femur. R. Bonn.—p. 270.
*Cistern Route for Myelography. H. Peiper and H. Klose.—p. 303.
*Hematuria from Minute Focus. K. Scheele and H. Klose.—p. 388.
*Secondary Tumors in Thyroid. H. Klose.—p. 439.
Rotation Osteotomy for Talipes Equinus. F. Loeffler.—p. 457.
*Painful Nodules in Breast. W. Sebening.—p. 464.
*Paralysis of the Intestine in Peritonitis. W. Budde.—p. 486.
*Surgery of the Heart and Pericardium. H. Wagner.—p. 514.
Movability of the Kidneys. F. Gastreich.—p. 523.
*Origin of Gastric Ulcer. F. J. Kaiser.—p. 535.
Poncet's Tuberculous Rheumatism. H. Peiper.—p. 562.
Cause of Death After Brain Pressure-Reducing Intervention. H. Fischer.—p. 572.
*Radical Phrenicotomy. O. Goetze.—p. 595.
Time Distribution of Roentgen Irradiation. H. Holfelder.—p. 647.

Combined Air and Contrast Suspension for Roentgen-Ray Examination of the Intestines.—Fischer's illustrations show the remarkably instructive shadows cast when the intestine is filled to four-fifths with air and to one-fifth with the barium suspension. By turning the reclining patient over several times, or shaking him, the contrast suspension gets more evenly spread. He has had no untoward by-effects in 300 applications of this method in three years.

Myelography.—The research here reported was aided by a grant from the Rockefeller Foundation. Peiper and Klose denounce the injection of iodized oil by lumbar puncture as dangerous and comparatively ineffectual, while injection of 2 c.c. into the cisterna above allows the fluid to settle down gradually, and reveal conditions the whole length of the spinal cord. Headache and sensory root symptoms are common, but were easily controlled and proved transient in their twelve clinical cases.

Essential Hematuria.—Scheele and Klose regard the peristalsis of the kidney pelvis and the hyperemia induced by nervous influences as important factors in the bleeding. Rinsing the kidney pelvis with silver nitrate is useful when the bleeding is in the pelvis, but decapsulation is more promising with parenchymatous hemorrhage. Only after these have failed should nephrectomy be considered, and tentative treatment for syphilis should not be forgotten.

Metastasis in the Thyroid.—Klose adds a fourth case to the three on record in which metastasis from a hypernephroma occurred in the thyroid. In his case it was a casual necropsy finding, and there had been no appreciable symptoms from it, as the thyroid had previously been sound. He encountered another case in which symptoms of exophthalmic goiter developed, as likewise in one of the three in the literature, the metastasis affecting an already pathologic thyroid. Treatment should be the same as for exophthalmic goiter in general. He remarks that the thymus seems the only organ always spared by metastasis in every form of malignant disease.

Painful Nodules in the Breast.—Sebening's examination confirmed that the painful lumps in the eleven cases described were due to chronic proliferation of certain glandular elements in the breast which shared in the menstrual changes. The women were between 20 and 49, with well developed, full breasts, and all recovered, two under conservative measures alone, the others after excision of the painful lump or lumps. In another case he amputated the breast on account of chronic cystic mammitis, the patient insisting on the operation from fear of cancer, but no evidence of malignant disease could be discovered in the resected tissues.

Paralysis of the Bowel in Peritonitis.—Budde illustrates the device with which the eventrated loop of the mouse intestine was kept functioning while laved with the fluid. He thus tested the peritoneal exudate from thirty patients with peritonitis. A primary paralyzing action on the bowel wall was apparent only in the cases in which in addition to the colon bacillus infection there was a profuse anaerobic flora. With purely aerobic infection, the paralyzing action seems to proceed from toxic injury of the vasomotor centers. In contemplating surgical intervention, the absence of a bowel wall paralyzing toxin may turn the scale in regard to operation.

Surgery of the Heart.—Wagner is inclined to regard the disappearance of the presystolic murmur in mitral stenosis as a sign of such grave omen that operative measures might be considered at once. The Allen-Praham method seems most promising but he thinks it should be supplemented by fastening the valve to the heart wall (Häcker), but not with absorbable material.

Mechanical Factors in Origin of Gastric Ulcer.—Kaiser says that the stomach musculature may become less elastic under the influence of reflex action from pain or directly from exhaustion, and he presents arguments to incriminate fatigue hypotonia as the cause of gastric ulcer. Not spasmodic contraction but stretching of the stomach wall provides conditions in the vessels which invite nutritional disturbance, with the consequent erosion from lowering of resistance to the digestive juices. Any operative treatment which fails to correct the stretching of the blood vessels involved is bound to fail, as it leaves the cause to continue its baneful action unmolested.

Radical Phrenicotomy.—Goetze does not approve of the usual technic for phrenicotomy, saying that it is haphazard and the effects are unreliable. His study of thirteen cadavers showed that the variations in the course and branches of the phrenic nerve were so numerous that the ordinary technic for phrenicotomy would have failed of its effect in 68 per cent. of them. He describes with illustrations his method for radical resection and for refrigeration by access to the nerve in the brachial plexus. He has applied the refrigeration method in several cases of uncontrollable hiccup, in chronic empyema and in diaphragmatic hernia.

Dermatologische Wochenschrift, Leipzig

80: 321-360 (Feb. 28) 1925

Case of Mibelli's Angiokeratoma. F. Goldschlag.—p. 321.
Silver Stain for Spirochaeta Pallida in Tissues. W. Krantz.—p. 323.
Intravenous Injection of Luetin. H. Planner.—p. 330.
*Injuries to the Kidneys from Bismuth. W. Engelhardt.—p. 338. Cont'd.

Injuries to the Kidneys from Bismuth.—Summarizing the reports on the secondary effects of bismuth therapy that have been published, Engelhardt finds that injury of the kidneys is mentioned in nearly all. The majority of the writers regard such injuries as benign, but a number consider the general use of bismuth as contraindicated on this account, though true nephritis very rarely results. The resistance of the kidneys to other harmful influences (infections, poisons) is held not to be lowered by the strain due to the bismuth elimination.

Deutsche medizinische Wochenschrift, Berlin

51: 381-422 (March 6) 1925

*Preventive Vaccination. M. Hahn.—p. 381.
Inoculation with Spirosoma Duttoni. F. Plaut.—p. 387.
*Etiology of Scarlet Fever. T. J. Bürgers.—p. 388.
Polycythemias. R. Seyderhelm.—p. 389.
*Leukopenia in Diagnosis and Prognosis of Tuberculosis. Jülich.—p. 391.
Sedimentation Test in Gynecology. Nitschmann.—p. 393.
*Kidney Function in Urinary Stasis. A. Salomon.—p. 394. Conc'n.
*Dry Complement. M. Stern.—p. 397.
*Action of Oxygen and Carbon Monoxid on Concentration of Blood. H. Zimmer.—p. 398.
Intramuscular Versus Intravenous Bismuth. E. Hachez.—p. 400.
Instruments for Autohemotherapy. Tenckhoff.—p. 400.
*Percussion of Lungs in Children. Stargardter.—p. 400.
*Slide-Rule as Medical Tool. Apel.—p. 401.
*Public Hygiene in Palestine. L. Olitzki.—p. 402.
*Advertisements in Medical Journals. J. Schwalbe.—p. 403.

Preventive Vaccination.—Hahn reviews critically the methods and results of preventive vaccination and serum treatment.

Etiology of Scarlet Fever.—Bürgers found the corpuscles described by Cristina, Caronia and Sindoni not only in the cultures made with material from scarlet fever patients, but also in the not inoculated culture mediums. He regards them as chiefly autolytic products. Only some of them belong probably to the group of *Micrococcus candicans* which were present in the supposedly sterile organs but did not develop in the first days of incubation. Caronia's vaccines contain these cocci. He failed to obtain any indication of experimental production of scarlet fever in animals. The so-called agglutination is only a sedimentation of cell detritus. Complement fixation was positive with any culture or pure Tarozzi-Noguchi medium, and negative with the filtrate. He appreciates Caronia's results with preventive vaccination, but regrets to disagree with him in regard to the other findings. In the Italian preparations from measles, he failed to find even the small corpuscles. He regards Dick's production of scarlet fever in man by application of streptococci on the tonsils as deserving more attention, and suggests a neutral international commission for study and criticism of both the American and Italian investigations.

Leukopenia in Diagnosis and Prognosis of Tuberculosis.—Jülich found in forty-five cases of uncomplicated tuberculosis with high fever, almost as a rule, an absolute or relative leukopenia. He believes that it is diagnostically important. Repeated examinations are useful for the prognosis.

Kidney Function in Urinary Stasis.—Salomon examined twenty-eight patients with prostatic obstruction and seven with paralysis of the bladder, using chiefly the diuresis and concentration tests. The kidney function was almost normal in the latter group in spite of the residual urine. He found that it was always impaired in prostatic obstruction. The blood pressure was increased during retention. If it remains high after permanent catheterization, arteriosclerosis or nephritis is to be assumed.

Dry Complement.—Stern had good results with one batch of commercial dry complement and quite unreliable results with two other batches.

Action of Oxygen and Carbon Monoxid on Concentration of Blood.—Zimmer found irregular changes of the concentration of the serum after inhalation of oxygen or of illuminating gas.

Percussion of Lungs in Children.—Stargardter found Arkawin's dull percussion sound in the axilla only up to the sixth or eighth year. It indicates enlargement of the glands below the bifurcation. The arms must be held horizontally to avoid any curving of the spine.

Slide-Rule as Medical Tool.—Apel demonstrates the advantages of the slide-rule for determination of the caloric value of food, differential counts and their expression in absolute counts, and other questions.

Public Hygiene in Palestine.—Olitzki describes the organization and results of medicine in Palestine. The working men are insured by their organization. Malaria has been eradicated in Jerusalem, and the fight is progressing also in the country. Intestinal infections toward the end of the summer, due to soiled vegetables and fruits, are most important.

Advertisements in Medical Journals.—Schwalbe deals with the principles for acceptance of advertising matter. His main argument is the impossibility to keep a good journal going without the advertisements. Consequently he excludes only open frauds and secret remedies.

Klinische Wochenschrift, Berlin

4: 433-480 (March 5) 1925

*Lactic Acid. F. Knoop.—p. 433.
Alastrim and Smallpox. H. A. Gins.—p. 434.
*Insulin. T. Brugsch and H. Horsters.—p. 436.
*Surgery of Nephritis. H. Kümmell.—p. 439.
Pharmacology of Gastric Motility. E. Ötvös.—p. 445.
Sympathectomy in Asthma. O. Witzel.—p. 448.
*Intracutaneous Tuberculin Test. R. Treu.—p. 450.
*Optic Agnosia. Niessl von Mayendorf.—p. 451.
*Food and Liver Function. P. Junkersdorf.—p. 454.
*Calcium in Serum of Mother and Fetus. K. Hellmuth.—p. 454.
Chronic Nephropathy. G. S. Karácsony.—p. 455.
Gastroscopy. A. Hübner.—p. 456.
Endemic Goiter. Frey.—p. 460.
*Insulin in Furunculosis. A. Störmer.—p. 477.

Lactic Acid.—Knoop points out that only micro-organisms use the splitting of glucose into lactic acid as a source of energy. It represents only one fiftieth of the caloric value of sugar. A man would require daily 25 kg. of carbohydrates, instead of 500 gm. The largest part of lactic acid split during the first anerobic phase of muscular action reverts into glycogen. The normal lactic acid concentration in the blood is about a tenth of that of sugar. None is present in the urine. The production of lactic acid from fat in the intermediary metabolism is probable but not proved. The lactic acid which appears in the urine after ingestion of beta-oxybutyric acid is probably due to a lesion of the kidneys causing an increased permeability for lactic acid. There was no increase in the blood.

Insulin.—Brugsch and Horsters find that the problem of the mechanism of the action of insulin is solved: It serves as the thermostable kinase of the phosphatese (ferment which synthesizes d-fructose-diphosphoric acid from lactic and phosphoric acids while oxidizing glucose). The cleavage of glucose into lactic acid is also enhanced by insulin. At the same time, it inhibits the diastatic and lipolytic ferment of the liver, which adds to the hypoglycemia. Insulin increases the oxygen intake of washed liver cells and muscles, as well as of the cells obtained from a pancreatectomized animal It does not enhance yeast fermentation, which is activated by the muscle coferment. Consequently, insulin is not identical

with other coferments of animal or vegetable origin. Diabetes is due to the lack of utilization of glucose.

Surgery of Nephritis.—Kümmell uses decapsulation of one kidney in many conditions. Infectious nephritis (with abscesses) gave fine results, with low mortality. Nephritis dolorosa is an excellent indication. Hemorrhagic nephritis was influenced almost as much. Three days of anuria in diffuse nephritis make decapsulation imperative. It should be also performed if symptoms of nephritis (including higher blood pressure) last for more than four weeks in spite of appropriate treatment.

Intracutaneous Tuberculin Test.—Treu injected intracutaneously mixtures of tuberculin and serum from tuberculous patients. The reaction was in the majority of the seventy-two cases weaker if the mixture was injected immediately. If the injection was done twenty-four hours after mixing the serum and the tuberculin, the reaction was usually stronger. There was no difference between serums from patients with active or inactive tuberculosis.

Optic Agnosia.—Niessl von Mayendorf concludes from clinical observations that cortical blindness is due to a lesion of the left macular bundle of the optic radiation, or of the left central projection of the macula in the occipital cortex.

Food and Liver Function.—Junkersdorf produced hypoglycemia by one-sided protein food, and even more easily by overfeeding with fat. Overfeeding with carbohydrates had paradoxically the same effect, which he attributes to an impairment of liver function by the overloading with reserve substances. Phlorhizin produces a lipomatosis of the liver; its action is not purely renal.

Calcium in Serum of Mother and Fetus.—Hellmuth compared the calcium concentration in the serum of the mother and of the umbilical vein. It was always higher in the fetal serum, around 12 mg. per hundred cubic centimeters against 9.6 in the mother.

Insulin in Furunculosis.—Störmer had rapid and good results with 20-80 daily units of insulin in furunculosis.

Medizinische Klinik, Berlin

21: 307-346 (Feb. 27) 1925

Treatment of Abortion. E. Vogt.—p. 307.
*Pulmonary Tuberculosis and Endocrines. N. Róna.—p. 311.
Early Operation for Gallstones. Symposium.—p. 316. Conc'n.
*Intracutaneous Autohemotherapy. J. Weitgasser.—p. 318.
Roentgenography with Lilienfeld Tube. Bardachzi and Maczak-Ottenburg.—p. 320.
Situs Inversus. F. Lange.—p. 321.
Congenital Brain Cysts. Dieterich.—p. 323.
Position in Gastroscopy. R. Korbsch and K. Schulte.—p. 324.
"Hematologic Methods." H. Arndt.—p. 325. Reply. Engel.—p. 326.
*Glycogen in Liver After Insulin. F. L. Bonn.—p. 327.
Survey on Gynecology. W. Liepmann and W. Brusten.—p. 329.
Organization of Fight Against Tuberculosis. R. Güterbock.—p. 343.
Contracted Pelvis. E. Martin. Supplement.—pp. 31-46.

Pulmonary Tuberculosis and Endocrines.—Róna brings a survey of the changes of the endocrine glands in clinical and experimental tuberculosis.

Intracutaneous Autohemotherapy.—Weitgasser observed several times a pronounced reaction, especially fever, after intracutaneous injections of 0.6 c.c. of the patient's own blood, fractioned at three points.

Glycogen in Liver After Insulin.—Bonn injected fasting and well nourished rabbits with lethal doses of insulin. The spasms appeared at about the same time (three hours) in both groups. The insulin and the spasms had practically no influence on the glycogen content of the liver in fasting rabbits.

21: 347-386 (March 6) 1925

Gastro-Intestinal Hemorrhages and Perforation. L. Kuttner.—p. 347.
*Pulmonary Tuberculosis in Pregnancy. G. Winter.—p. 350.
*Grafts of Gonads in Schizophrenia. O. Pötzl and Wagner.—p. 354.
*Dangers from Obstetric Examination. H. Sellheim.—p. 359.
*Injuries by Drugs. J. Jadassohn.—p. 362.
Roentgenotherapy. H. Holfelder.—p. 366.
*Tumors of the Bone Marrow and Bence-Jones Protein. Pribram.—p. 368.
Latent Conditions. E. Abderhalden.—p. 369.
Progress in Synthesis of Drugs. Hesse.—p. 370.
Tumors of the Skin. F. Pinkus.—p. 374.
Survey on Physiology and Pathology of the Stomach. Wolff.—p. 375.
Fight Against Tuberculosis in Germany. R. Güterbock.—p. 383. Conc'n.

Pulmonary Tuberculosis in Pregnancy.—Winter reviews the literature and his own experience. He observes patients with latent tuberculosis in a sanatorium. The same physician should make regular and repeated examinations. In a manifest tuberculosis, and in the first seven months of laryngeal tuberculosis, he induces abortion. Sterilization, especially temporary sterilization with roentgen rays, also has its place in the treatment.

Grafts of Gonads in Schizophrenia.—Pötzl and Wagner had no favorable results with castration combined with homoioplastic ovarian grafts in schizophrenic women. They report in detail one history of amelioration during four months of amenorrhea following the operation, and periodical aggravation with the onset of the menses. This periodical aggravation ceased after a few months, together with the menstruation. They discuss the pathogenesis of schizophrenia, and attribute the menstrual aggravation to an increased permeability of the meninges during these periods.

Dangers from Obstetric Examination.—Sellheim insists on keeping outside of the external os in examination during labor. The os is the borderline between the aseptic uterus and the germs of the vagina. The finger should stay in the latter part.

Injuries by Drugs.—Jadassohn reports instances of pains recurring in the same spot (muscles of arm, frontal nerve, etc.) in certain patients who were hypersensitive to arsphenamin, bismuth or mercury.

Tumors of the Bone Marrow and Bence-Jones Protein.—Pribram observed polycythemia in a patient with multiple tumors of the bone marrow. The urine contained Bence-Jones' protein.

Münchener medizinische Wochenschrift, Munich

72: 289-330 (Feb. 20) 1925

*Biologic Morphology and Medicine. H. Böker.—p. 289.
*Resorption from Urethra and Bladder. W. Schönfeld and W. G. Müller.—p. 291.
Anthropometry on Students. L. R. Grote et al.—p. 294.
Treatment of Influenzal Hiccup. Tscherning.—p. 297.
*Sympathetic Ophthalmia and Tuberculotoxic Affection. H. Guillery.—p. 298.
*Psychotraumatic Dysmenorrhea. H. Edelberg and J. S. Galant.—p. 300.
Desmoid in Abdominal Wall. Sonntag.—p. 301.
*Treatment of Pylorospasm. F. Hamburger.—p. 302.
*Specialization of Surgeon's Fingers. H. Hans.—p. 303.
Heredity in Goiter. H. W. Siemens.—p. 303.
*Diagnosis of Appendicitis in Children. Wolf.—p. 304.
"Orthopedic Shoe or Insoles?" L. Zimmermann.—p. 304.
The Prostate and Its Clinical Significance. O. Orth.—p. 305.
The School Physician and Physical Training. Doernberger.—p. 308.
*Roentgenologic Training in Germany. F. M. Groedel.—p. 310.
Montana de Montserrat's Views on the Circulation. F. Lejeune.—p. 313.

Biologic Morphology and Medicine.—Böker regards comparative anatomy from the viewpoint of a causal connection between function and shape ("biologic morphology"). It investigates the form characteristic of every vital phenomenon, and constructs the phylogenesis of the functions, and at the same time of the anatomic adaptations caused by them. The genesis of the human gait goes back to ancestors climbing trees by grasping with the anterior extremities and putting the posterior against the tree. From there the line goes to mammalians climbing by simply grasping, and so on. The coracoid process is necessary, and therefore developed only in mammalians that needed to raise the humerus forward.

Resorption from Urethra and Bladder.—The deaths following urethral injections of cocain derivatives supposed to be harmless, induced Schönfeld and Müller to investigate the resorption from the urethra and bladder in man. Pilocarpin and tuberculin produced the typical reactions. The resorption was enhanced if the mucosa had been irritated before the instillation.

Sympathetic Ophthalmia and Tuberculotoxic Affection.—Guillery produced uveitis in rabbits by an aseptic puncture of the ciliary body, if he introduced a closed capsule with tubercle bacilli into the orbit. The intact eye became affected also.

Psychotraumatic Dysmenorrhea.—Edelberg and Galant report four cases of dysmenorrhea which began after psychic

traumas (loss of the house, police investigation, etc.). Atropin, rest and psychotherapy are indicated in the condition, which persists usually longer than other signs of the psychoneurosis.

Treatment of Pylorospasm.—Hamburger emphasizes the efficacy of subcutaneous injections of 0.1 mg. of atropin in pylorospasm of infants. It helped one baby when 1.8 mg. daily given by the mouth was without any effect on the spastic condition and on the pupils.

Specialization of Surgeon's Fingers.—Hans uses his right little finger for palpation in suspected infections; the middle finger and index are reserved for gynecologic examinations, etc.

Diagnosis of Appendicitis in Children.—In suspected appendicitis, Wolf puts the small child on the floor, and watches it as it runs toward its mother. The psoas symptom becomes evident, while it is frequently lacking in the bed because of the analgesic influence of the doctor's presence.

Roentgenologic Training in Germany.—Groedel advocates teaching roentgenology as an obligatory course for students. He also insists there should be a special department of roentgenology at the medical faculties.

Wiener klinische Wochenschrift, Vienna

38: 243-266 (Feb. 26) 1925

*Appetite and Food Reserves. H. Schur.—p. 243.
Parathyroid Tumors with Fibrous Osteitis. A. Gödel.—p. 246.
*Pathogenesis and Diagnosis of Embryocardia. I. Schwarzmann.—p. 250.
*Seven Year Periodicity in Progeny of Drunkards. Swoboda.—p. 251.
Standardization of Sedimentation Test. H. Poindecker.—p. 253.
Oxygen Plus Chlorin. H. Bardach.—p. 254.
*"Ileus Serum." H. Pfeiffer.—p. 254.
Treatment of Carbuncle. T. Hryntschak.—p. 255.
Survey on Syphilis. R. Gruss.—p. 256. Conc'n.
The Appetite. A. Durig. Supplement.—pp. 1-52.

Appetite and Food Reserves.—While not denying the other factors, Schur regards the condition of the food reserves of the organism—especially in the liver and in the fat tissue—as the starting point for stimulation of the hunger center in the brain. The filling of the stomach is not the cause—as shown by Busch's man with a duodenal fistula. The clumps of proteins in the liver cells after meals may be important. He believes that the reserve substances, not the living protoplasm, are the objects of metabolism.

Pathogenesis and Diagnosis of Embryocardia.—Schwarzmann differentiates the pendulum rhythm from true embryocardia. In the former, both heart sounds are present, and each sounds a little different. In embryocardia we hear only the first sound. The prognosis is extremely bad. Death followed usually in one or two days in his twenty patients. Only two of them recovered.

Seven Year Periodicity in Progeny of Drunkards.—Swoboda publishes two genealogic tables demonstrating his theory of the seven year periodicity. He believes that the years divisible by seven are the high years of prevalence of the subject in heredity. Absolute dominance exists perhaps only as an extreme case. As a rule, the children born in the seven year periods of the healthy parent are healthy. On the other hand, even if the healthy parent is dominant, defective children may be expected in the periodical years of the diseased parent. This may be important for eugenics, as it would be advisable to avoid conception in the dangerous years of either parent, and especially to avoid the birth of a child seven years after a defective one.

"Ileus Serum."—Pfeiffer explained fifteen years ago the death in burns by protein cleavage. He was not able to prevent photodynamic action and death from trypsin poisoning by strongly antitryptic serums from pregnant women. This is probably due to the fact that the substance inhibiting the action of trypsin (which is not an antiferment) does not act on the most important ferments active in these cases.

Zeitschrift für Krebsforschung, Berlin

22: 97-197 (Feb. 18) 1925

Twenty-Five Years of the German Cancer Society. F. Blumenthal.—p. 97.
Cancer and Its Cure. E. Opitz.—p. 108.
Tar Cancer in a Rabbit. N. Krotkina.—p. 125.
Colloid Cancer of Uterine Cervix. A. Pop.—p. 129.
*Hemopoietic Organs in Cancer Cachexia. A. Malinin.—p. 136.
*Etiology of Cancer of Tongue. H. Schleicher.—p. 144.

Hemopoietic Organs in Cancer Cachexia.—Malinin's patient was a young woman with grave anemia from cancer of the vagina. The spleen was in amyloid degeneration. The lymph glands contained many erythrophages, which may account for the anemia.

Etiology of Cancer of Tongue.—Schleicher investigates the etiology of his forty-four cases of cancer of the tongue. Leukoplakia, and exposure to mechanical, thermic and chemical injuries, and syphilis, are important factors—in addition to the predisposition.

Zeitschrift für urologische Chirurgie, Berlin

17: 1-118 (Jan. 27) 1925

Roentgenograms in Diagnosis of Kidney Tumors. Grauhan.—p. 1.
Operative Treatment of Nephritis. H. Kümmell.—p. 27.
*Acute Purulent Prostatitis. M. Belostozky.—p. 53.
A Third Kidney with Ureter. Fischer and Rosenloecher.—p. 61.
Bacteria-and-Fibrin Calculi. P. Blatt.—p. 67.
Bacteria-and-Albumin Calculi in Urinary Tract. H. Becker.—p. 77.
Hematuria from Cavernous Angioma in Kidney Pelvis. G. Lutz.—p. 93.
*Arrest of Hemorrhage in Suprapubic Prostatectomy. Ratner.—p. 101.
Sclerosis of Bladder Sphincter. F. Voelcker.—p. 103.
Colibacilluria in Young Girls. F. Voelcker.—p. 105.

Seventy Cases of Acute Purulent Prostatitis.—The pus forced its way outward in forty cases, in twenty through the urethra, and three times into both urethra and rectum (in one instance with a fistula which healed rapidly). No fatalities occurred in the total seventy cases. Conservative treatment consists of hot enemas, rest in bed, milk injections and, often, vaccine therapy. With open abscess, gentle massage of the prostate promotes drainage. Belostozky advises delay in operation unless grave disturbances threaten. Operation was necessary in only eight of his cases.

Arrest of Hemorrhage in Suprapubic Prostatectomy.—Under control of a finger in the rectum, Ratner packs the entire bed of the prostate through the bladder with two tampons, one for each lateral lobe. Another tampon is then packed between the first two and one within the bladder. For further compression on the seat of the bleeding, a tampon 1 m. long and ½ m. wide is packed in the rectum. After forty-eight hours the rectal tampon is loosened and part is cut off, and in four or five days the remainder is removed. The bladder tampons are then loosened, and on the sixth or seventh day, removed. He had seven instances of grave hemorrhage in his 225 prostatectomy cases, and ascribes his success in controlling the hemorrhage mainly to the rectum tampon. The patient feels no appreciable inconvenience from it.

Zentralblatt für Chirurgie, Leipzig

52: 289-336 (Feb. 7) 1925

Denaturing Alcohol with Chloroform-Camphor. G. Perthes.—p. 292.
Cause of Coxa Vara in Adolescents. M. Kappis.—p. 292.
Diagnosis of Bronchus Fistula in Pleural Empyema. Melchior.—p. 297.
Bardenheuer's Operation for Congenital Defect of Fibula. F. Watermann.—p. 299.
Operative Correction of Calcaneovarus. H. Strauss.—p. 301.
*Postoperative Thrombosis. C. Prima.—p. 303.

Thrombosis After Operations on Vascular System.—Prima was unable experimentally to produce a traumatic thrombus in healthy vessels by contusion or ligation, and succeeded in inducing occluding thrombosis only by the electric current. He is therefore inclined to believe that the danger of thrombosis in operative intervention on blood vessels has been exaggerated.

Zentralblatt für Gynäkologie, Leipzig

49: 449-512 (Feb. 28) 1925

Irradiation of the Spleen in Gynecologic Hemorrhages. R. Hornung and F. v. Mikulicz-Radecki.—p. 450.
Rupture of Symphysis in Delivery. E. Holzbach.—p. 460.
Suprarenal Nodules and Paraganglion Cells in Ovary or Broad Ligament. H. O. Neumann.—p. 465.
Cause of Noncoagulation of Menstrual Blood. L. Kraul.—p. 471.
Universal Dropsy of Fetus and Placenta. H. Hartmann.—p. 474.
Adenocarcinoma in Perineum. H. Hellendal.—p. 477.
Fecundation with Intact Hymen. F. C. van Tongeren.—p. 478.

49: 513-560 (March 7) 1925

The Kielland Forceps. T. Wyder.—p. 513.
Case of Ovarian Epilepsy. A. Hanse.—p. 529.
Obstetric Examination by the Rectum. T. Johannsen.—p. 534.
Effect of Grafts and Irradiation on Ovarian Function. Mansfeld.—p. 537.
*Powder Test of Patency of Fallopian Tubes. D. v. Ott.—p. 546.
"Formation of Decidua." K. Ulesko-Stroganowa.—p. 549.

Charcoal or India Ink Test for Patency of Fallopian Tubes.—By injection of cinnabar, charcoal or India ink into the abdominal cavity, von Ott has proved that lymphatic currents flow from the peritoneal cavity through the tubes into the uterus and vagina, carrying the foreign particles, the transportation aided by the ciliated epithelium of the tubes and uterus. The appearance of the injected powder in the lower portions of the genitals fully justifies the assumption of patency of the tubes, or at least of one. He says this test procedure is entirely safe, and it allows conclusions as to the normal physiologic activity of the ciliated epithelium of the tubes and uterus.

Casopis lekaru ceskych, Prague

64: 281-320 (Feb. 21) 1925

Chronic Osteomyelitis. Kreisinger and Micochová.—p. 281. Cont'd.
*Abortion in Tuberculosis. A. Ostrcil.—p. 284.
*Measuring the Eye Tension. Gala.—p. 289.
Hypernephroma. V. Nykles.—p. 296.
*Protein Treatment of Gastric Ulcer. J. Horák.—p. 299.
Traumatic Neurosis. E. Knobloch.—p. 301.

Abortion in Tuberculosis.—Ostrcil deplores the increase in artificial abortion (180 in 1913 to 588 in 1923). One of the causes is the increase in tuberculosis and heart disease since the war. Another cause is the indifference of physicians in the question. The most frequent and important cause is a phobia of the women against having larger families. In 1912 he was radically in favor of interrupting the pregnancy in every case of tuberculosis. The progress in treatment, and also the results of separation of the new-born from the tuberculous mother have modified his attitude. He prefers now to wait in beginning tuberculosis, and observe the woman in a sanatorium. When the appropriate treatment is impossible, he advises abortion. In advanced cases, hysterectomy is indicated. He regards favorably a temporary sterilization with roentgen rays, especially when there is recurring menorrhagia. He observed improvement lasting for two years in one such case, treated by irradiation in 1915. Menstruation returned after two years, and the pulmonary process flared up at the same time. Castration is contraindicated in women with instability of the nervous system.

Measuring the Eye Tension.—Gala regards Bailliart's tonometer as unreliable and uncontrollable. The Schioetz type is to be preferred.

Protein Treatment of Gastric Ulcer.—Horák used Pribram's method of intravenous protein injections, in combination with Sippy's treatment, in forty cases of gastric ulcer, with recovery of 75 per cent.

Nederlandsch Tijdschrift v. Geneeskunde, Amsterdam

1: 549-668 (Feb. 7) 1925

*Puzzling Diagnoses. J. L. C. Wortman.—p. 552.
*Face Reflex Phenomenon. P. M. van Wulfften Palthe.—p. 562.
Congenital Hypertrophy of the Heart. E. S. Frank.—p. 577.
Atypical Case of Dystrophy of Muscles. G. C. Bolten.—p. 581.
Multilocular Echinococcosis. G. A. J. Moransard.—p. 586.
Medical Folklore in Friesland. J. de Wit.—p. 588.
Hippocrates' Visit to Democritus. B. L. Kroon.—p. 597.
Liver Tissue in Treatment of Night Blindness. M. A. van Andel.—p. 599.
Avian Bedbugs in Houses. N. L. Wibaut-Isebree Moens.—p. 627.

Puzzling Clinical Pictures.—Wortman reiterates that the disease and the patient's resistance to it form a clinical picture as different in every case as one person differs from another in society. He relates that two young women had developed what seemed to be acute and grave croupous pneumonia, but it proved to be the first clinical stage of pulmonary tuberculosis.

Face Reflex.—Palthe discusses the biologic principles involved in the reflex elicited in throat and nose by a sudden jet of air hitting the face. This reflex action is evidently for protection, and may serve to differentiate peripheral from more central disturbances in the trigeminal nerve domain.

1: 721-844 (Feb. 14) 1925

The Leyden University Celebration. G. van Rijnberk.—p. 722.
The Danish Gold Treatment of Tuberculosis. H. Aldershoff and P. J. L. de Bloeme.—p. 725.
Blood Aspirating Pipet Worked with One Hand. G. C. van Walsem.—p. 734.
*Indicanemia in the Pregnant. J. A. van Dongen.—p. 738.
Fatal Acute Gastro-Enteritis After Cesarean Section. Schouten.—p. 749.
Fatal Pickling Salt Poisoning. Hulst.—p. 753.

Indicanemia in the Pregnant.—In van Dongen's tests on fifty-seven patients, the indican content of the blood ranged from 0.64 to 2.13 mg. per liter of blood serum in five non-pregnant women with some gynecologic affection. The range was from 0.91 to 3.2 in seven normal pregnant women near term, and averaged less than this after delivery, in the normal as well as in the toxicosis cases free from kidney disease. Hyperindicanemia may thus suggest possible nephritis.

Acta Medica Scandinavica, Stockholm

61: 481-597 (Feb. 12) 1925

*Haudek's Notch. J. Frandsen.—p. 481.
Immunity and Immunization Against Typhus. F. Breinl.—p. 498.
*Neurogenous and Cellular Achylia. E. Thomsen.—p. 522.
*Prognosis in Scarlatinal Nephritis. H. Hansborg.—p. 570.

Prognosis in Ulcer Cases with Filling Defect.—Øhnell has reported disappearance of the Haudek notch under medical treatment in thirty-two of thirty-six cases of gastric ulcer with demonstrable filling defect. Frandsen now describes six cases treated medically with disappearance of the Haudek niche, four of gastric ulcer, two with duodenal ulcer showing both notch and deformity of the upper duodenum. One of the gastric cases had also a duodenal notch and otherwise deformed outline of the upper duodenum. In this case, reexamination three years after the course of medical treatment showed no abnormality.

Neurogenous and Cellular Achylia.—Thomsen found in experiments on dogs that cholecystectomy, like nephrectomy and splenectomy, does not reduce secretion in the stomach. By alcoholic intoxication acute gastritis may be produced, which may gradually become transformed into a chronic gastritis with hypochylia. When the gastric glands cease functioning, they show almost the same cellular changes as after section of the vagus.

Prognosis in Scarlatinal Nephritis.—Examination of 284 persons with a history of scarlatinal nephritis one to ten years previously, revealed in only one instance a lasting albuminuria, observed for five years.

Hygiea, Stockholm

87: 81-112 (Feb. 16) 1925

Military Service and Tuberculosis. E. Nilsson.—p. 81. Conc'n, p. 113.

Norsk Magazin for Lægevidenskaben, Christiania

86: 209-320 (March) 1925

Biologic Study of Hermaphroditism. O. Berner.—p. 209.
*Formation of Bile Pigments in Hemolysis. O. Scheel.—p. 248.
Pleural Adhesions After Induced Pneumothorax. M. Kallweit.—p. 252.
Gastric Cancer with Perforation. K. Nicolaysen.—p. 260.
A Symptomless Fibroma in the Heart. A. J. A. Arnesen.—p. 263.
Cellular Changes Due to Vitamin Deficiency. P. Henriksen.—p. 265.

Formation of Bile Pigments in Hemolysis.—In Scheel's case of paroxysmal hemoglobinuria, occurring in bed, after midnight, blood tests showed that the hemolysis began in the girl, aged 17, before the hemoglobinuria. Urobilinuria followed the hemoglobinuria in eight to twelve hours. The late and transient urobilinuria after the hemoglobinuria is best explained by the liver-intestine theory. Normally, urobilin is constantly resorbed from the intestine and excreted by the liver cells in the bile. The increased excretion of bilirubin after each attack of hemolysis results finally in insufficiency of the liver, and some urobilin escapes into the circulation unmodified. When all this hemolysis bile is emptied into the intestine, the liver is relieved, and regains its functional capacity.